

State of California
The Resources Agency

DEPARTMENT OF WATER RESOURCES
Division of Operations and Maintenance

STATE WATER PROJECT OPERATIONS DATA

For the month of:
January 1998

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State of California

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Secretary for Resources
The Resources Agency

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State of California
The Resources Agency

Department of Water Resources
Division of Operations and Maintenance

**State Water Project
Operations Data**
for the month of January 1998

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MONTHLY HIGHLIGHTS

The following highlights are activities or actions that impacted State Water Project operations during the month of January 1998.

A series of moderate storms generated over twice the average amount of northern Sierra monthly precipitation during January, raising the seasonal total to about 135 percent of average. Statewide snowpack, which was about 75 percent of average on January 1, recovered to slightly above normal water content for this point in the season, and was 65 percent of the April 1 average by the end of the month.

Runoff during January ranged between 150 and 200 percent of the monthly average on most major northern California rivers. Runoff on southern Sierra rivers was less, but still above average. Statewide seasonal runoff increased to about 120 percent of average.

As of January 30, the 15 major Sacramento-San Joaquin system multipurpose reservoirs had slightly over 5 MAF of flood control space, 0.5 MAF more than required. Total in-state reservoir storage stood at 107 percent of average, which was 62 percent of capacity. Total storage in major SWP reservoirs was about 4.37 MAF on January 31, compared with 4.6 MAF at this time in 1997. The average storage in the major SWP reservoirs on January 31 was 3.5 MAF. January 31 storage at Lake Oroville was about 2.65 MAF compared to 2.9 MAF at this time last year. The State's share of San Luis Reservoir storage was about 1.07 MAF, as compared with 1.1 MAF at this time last year. Space in the reservoir occupied by carryover water was needed for 1998 SWP operations, and consequently, all carryover was delivered or lost by January 20, 1998. The combined storage in our southern reservoirs was 651,000 AF on January 31 compared with 615,000 AF at this time last year.

SWP water deliveries for 1998 through January 31 were 114,000 AF representing a combination of annual entitlement, carryover, interruptible, and exchange waters. This was 60,000 AF more than that delivered during the same period in 1997. Due to favorable January precipitation, water delivery allocations were increased to 60 percent on January 27.

On January 23, a 42-foot steel work boat belonging to DWR sank near the intake structure in Lake Oroville. There was concern for potential escaped diesel fuel on downstream fisheries which instigated extraordinary measures to remove the boat from the Lake.

A variety of previously discovered leaks in Pool 48 prompted an outage of the East Branch on January 21. This outage continued through March 20 while cracks were repaired in the aqueduct lining. Repairs were also made to the forebay lining at Edmonston Pumping Plant. There was no pumping allowed during daylight hours to accommodate the work.

A low export fish experiment was conducted in the Delta from January 14 through January 27. SWP and CVP combined exports were held to 3,800 cfs, causing reduced flows at Banks and Check 12. Thermalito Diversion Dam releases remained at 900 cfs during January which facilitated a multi-year evaluation of increased flow effects on salmon spawning in the low flow section of the Feather River.

Beginning on January 22, some of the South Bay Aqueduct's water demands were met by releases from Del Valle Reservoir. There was sufficient precipitation in January to increase the reservoir storage, and consequently limit the ability to conserve local spring runoff. Hyatt-Thermalito operations peaked during this same period with river releases reaching 14,000 cfs.

The total estimated loss of winter-run size salmon at the project facilities for the season up to January 26 was 1,470 and the "red light" concern level is 2,800.

Table 1. Antelope Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 22,566 ac-ft

January 1998

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Outflow in cfs					Computed Inflow 1/	
				Regulated Release		Water Right	Spill	Estimated Evaporation And Seepage 1/		
				Stream-flow Maint.	Water Supply Contract					
Dec 31	4996.19	17,524								
1	4996.18	17,516	-8	20	0	0	0			
2	4996.25	17,572	56	20	0	0	0			
3	4996.28	17,596	24	20	0	0	0			
4	4996.34	17,645	49	20	0	0	0			
5	4996.34	17,645	0	20	0	0	0			
6	4996.33	17,637	-8	20	0	0	0			
7	4996.33	17,637	0	20	0	0	0			
8	4996.33	17,637	0	20	0	0	0			
9	4996.33	17,637	0	20	0	0	0			
10	4996.33	17,637	0	20	0	0	0			
11	4996.39	17,685	48	20	0	0	0			
12	4996.54	17,804	119	20	0	0	0			
13	4996.60	17,855	51	20	0	0	0			
14	4996.65	17,896	41	20	0	0	0			
15	4996.76	17,985	89	20	0	0	0			
16	4996.89	18,092	107	20	0	0	0			
17	4997.24	18,380	288	20	0	0	0			
18	4997.46	18,562	182	20	0	0	0			
19	4997.73	18,787	225	20	0	0	0			
20	4997.80	18,846	59	20	0	0	0			
21	4997.87	18,905	59	20	0	0	0			
22	4997.92	18,947	42	20	0	0	0			
23	4997.97	18,989	42	20	0	0	0			
24	4997.99	19,006	17	20	0	0	0			
25	4998.04	19,048	42	20	0	0	0			
26	4998.09	19,090	42	20	0	0	0			
27	4998.13	19,124	34	20	0	0	0			
28	4998.16	19,149	25	20	0	0	0			
29	4998.26	19,234	85	20	0	0	0			
30	4998.22	19,200	-34	40	0	0	0			
31	4998.14	19,132	-68	60	0	0	0			
Total cfs-days			---	680	0	0	0	29	709	1,520
Total ac-ft			1,608	1,349	0	0	0	58	1,407	3,015

1/ Values not available on a daily basis.

Table 2. Frenchman Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 55,477 ac-ft

January 1998

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Outflow in cfs					Computed Inflow 1/	
				Regulated Release			Spill	Estimated Evaporation And Seepage 1/		
				Stream-flow Maint.	Water Supply Contract	Water Right				
Dec 31	5577.86	40,855								
1	5577.83	40,815	-40	3	0	0				
2	5577.91	40,920	105	3	0	0				
3	5577.91	40,921	1	3	0	0				
4	5577.96	40,986	65	3	0	0				
5	5577.97	40,999	13	3	0	0				
6	5578.00	41,038	39	3	0	0				
7	5578.01	41,051	13	3	0	0				
8	5578.01	41,051	0	3	0	0				
9	5578.04	41,091	40	3	0	0				
10	5578.03	41,078	-13	3	0	0				
11	5578.07	41,130	52	3	0	0				
12	5578.17	41,262	132	3	0	0				
13	5578.17	41,262	0	3	0	0				
14	5578.20	41,301	39	3	0	0				
15	5578.21	41,314	13	3	0	0				
16	5578.27	41,394	80	3	0	0				
17	5578.34	41,486	92	3	0	0				
18	5578.46	41,645	159	3	0	0				
19	5578.50	41,698	53	3	0	0				
20	5578.52	41,724	26	3	0	0				
21	5578.54	41,751	27	3	0	0				
22	5578.58	41,804	53	3	0	0				
23	5578.58	41,804	0	3	0	0				
24	5578.58	41,804	0	3	0	0				
25	5578.60	41,831	27	3	0	0				
26	5578.62	41,857	26	3	0	0				
27	5578.66	41,910	53	3	0	0				
28	5578.65	41,897	-13	3	0	0				
29	5578.71	41,977	80	3	0	0				
30	5578.72	41,990	13	3	0	0				
31	5578.75	42,030	40	3	0	0				
Total cfs-days				---	93	0	0	0	46	
Total ac-ft				1,175	184	0	0	0	92	
									276	
									1,451	

Table 3. Lake Davis

Daily Operation

(in acre-feet except as noted)

Capacity: 84,371 ac-ft

January 1998

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Outflow in cfs							Computed Inflow	
				Regulated Release			Spill	Estimated Evaporation And Seepage 1/	Total Outflow 1/			
				Stream-flow Maint.	Water Supply Contract	Water Right						
Dec 31	5764.83	48,780										
1	5764.83	48,780	0	10	0	0	0	0	0			
2	5764.87	48,899	119	212	0	0	0	0	0			
3	5764.88	48,929	30	212	0	0	0	0	0			
4	5764.95	49,137	208	213	0	0	0	0	0			
5	5764.95	49,137	0	10	0	0	0	0	0			
6	5764.95	49,137	0	10	0	0	0	0	0			
7	5764.95	49,137	0	10	0	0	0	0	0			
8	5764.95	49,137	0	10	0	0	0	0	0			
9	5764.95	49,137	0	10	0	0	0	0	0			
10	5764.96	49,167	30	10	0	0	0	0	0			
11	5764.98	49,226	59	10	0	0	0	0	0			
12	5765.08	49,527	301	10	0	0	0	0	0			
13	5765.09	49,557	30	10	0	0	0	0	0			
14	5765.12	49,646	89	10	0	0	0	0	0			
15	5765.17	49,796	150	10	0	0	0	0	0			
16	5765.22	49,945	149	10	0	0	0	0	0			
17	5764.32	50,275	330	10	0	0	0	0	0			
18	5765.47	50,699	424	10	0	0	0	0	0			
19	5765.49	50,759	60	10	0	0	0	0	0			
20	5765.51	50,820	61	10	0	0	0	0	0			
21	5765.53	50,880	60	10	0	0	0	0	0			
22	5765.56	50,971	91	10	0	0	0	0	0			
23	5765.58	51,032	61	10	0	0	0	0	0			
24	5765.59	51,062	30	10	0	0	0	0	0			
25	5765.59	51,062	0	10	0	0	0	0	0			
26	5765.61	51,123	61	10	0	0	0	0	0			
27	5765.63	51,184	61	10	0	0	0	0	0			
28	5765.63	51,184	0	10	0	0	0	0	0			
29	5765.67	51,306	122	10	0	0	0	0	0			
30	5765.68	51,337	31	10	0	0	0	0	0			
31	5765.68	51,337	0	10	0	0	0	0	0			
Total cfs-days				---	917	0	0	0	105	415	1,704	
Total ac-ft				2,557	1,819	0	0	0	208	823	3,380	

1/ Values not available on a daily basis.

Table 4. Lake Oroville

Daily Operation

(in acre-feet except as noted)

Capacity: 3,537, 580 ac-ft

January 1998

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Outflow						Inflow	
				Hyatt Powerplant Generation 1/	Palermo Canal	Spillway Leakage 2/	Evaporation 3/	Spill	Total Outflow	Hyatt Powerplant Pumpback	Computed Inflow 4/
Dec 31	0.00	0									
1	803.46	2,231,018	2,231,018	690	6	0	24	0	720	1,740	2,229,998
2	803.59	2,232,503	1,485	7,071	6	0	14	0	7,091	16	8,560
3	805.19	2,250,839	18,336	445	6	0	42	0	493	1,127	17,702
4	806.85	2,269,974	19,135	1,959	6	0	57	0	2,022	1,450	19,707
5	806.89	2,270,437	463	11,364	6	0	7	0	11,377	12	11,828
6	807.23	2,274,370	3,933	7,771	6	0	28	0	7,805	627	11,111
7	807.54	2,277,961	3,591	5,112	6	0	21	0	5,139	962	7,768
8	807.65	2,279,236	1,275	7,429	6	0	0	0	7,435	940	7,770
9	807.39	2,276,223	-3,013	10,145	6	0	14	0	10,165	0	7,152
10	808.84	2,293,062	16,839	498	6	0	0	0	504	1,429	15,914
11	812.20	2,332,416	39,354	0	6	0	29	0	35	3,223	36,166
12	817.84	2,399,523	67,107	3,872	2	2	15	0	3,891	2,231	68,767
13	820.95	2,437,101	37,578	8,009	0	4	52	0	8,065	1,045	44,598
14	823.14	2,463,821	26,720	5,814	0	9	15	0	5,838	744	31,814
15	826.49	2,505,091	41,270	10,897	0	14	0	0	10,911	720	51,461
16	828.26	2,527,091	22,000	19,377	0	16	0	0	19,393	0	41,393
17	832.19	2,576,422	49,331	16,435	0	20	39	0	16,494	0	65,825
18	835.19	2,614,529	38,107	16,983	0	26	39	0	17,048	0	55,155
19	837.62	2,645,683	31,154	15,461	0	29	63	0	15,553	0	46,707
20	838.58	2,658,062	12,379	19,804	0	30	16	0	19,850	0	32,229
21	838.29	2,654,318	-3,744	27,813	0	30	32	0	27,875	0	24,131
22	837.83	2,648,387	-5,931	27,561	2	30	8	0	27,601	0	21,670
23	837.24	2,640,794	-7,593	27,615	4	30	16	0	27,665	0	20,072
24	836.64	2,633,088	-7,706	27,363	4	29	8	0	27,404	0	19,698
25	835.81	2,622,454	-10,634	25,052	4	29	47	0	25,132	0	14,498
26	835.54	2,619,001	-3,453	25,300	4	28	55	0	25,387	0	21,934
27	835.35	2,616,573	-2,428	23,745	4	28	0	0	23,777	0	21,349
28	835.76	2,621,814	5,241	12,639	4	28	39	0	12,710	0	17,951
29	836.80	2,635,142	13,328	13,847	2	29	55	0	13,933	0	27,261
30	837.73	2,647,099	11,957	13,775	4	30	32	0	13,841	615	25,183
31	838.34	2,654,963	7,864	14,211	4	31	32	0	14,278	393	21,749
Total		2,654,963	408,057	104	472	799	0	409,432	17,274	3,047,121	

1/ Includes bypass flows

2/ Only occurs when Lake water elevation is greater than or equal to 813.00 and there is no spill.

3/ Evaporation will be zero for days when there is precipitation or heavy overcast.

4/ Does not include pumpback.

**Table 5. Thermalito Forebay
Including Diversion Pool and Power Canal**

Daily Operation

(in acre-feet except as noted)

Capacity: 25,120 ac-ft

January 1998

Date	Storage 1/	Storage Change	Inflow			Outflow					Losses (-) And Gains (+)
			Lake Oroville Releases 2/	Kelly Ridge Generation	Thermalito Pumping- Generating Plant Pumpback	Thermalito Pumping- Generating Plant Generation 3/	Butte County	Thermalito Irrigation District	Releases To River 4/	Hyatt Powerplant Pumpback	
Dec 31	25,294										
1	24,767	-527	690	504	2,852	864	3	3	1,863	1,740	-100
2	24,263	-504	7,071	500	0	6,379	3	3	1,851	16	177
3	23,868	-395	445	528	1,910	385	3	3	1,851	1,127	91
4	24,126	258	1,959	496	2,290	1,564	3	3	1,851	1,450	384
5	24,011	-115	11,364	506	0	10,337	3	3	1,863	12	233
6	23,925	-86	7,771	516	1,089	7,012	3	3	1,876	627	59
7	23,832	-93	5,112	510	1,644	4,573	3	3	1,809	962	-9
8	24,111	279	7,429	500	1,642	6,620	3	3	1,847	940	121
9	23,938	-173	10,145	502	0	9,017	3	3	1,865	0	68
10	23,840	-98	498	504	1,932	0	3	3	1,868	1,429	271
11	24,293	453	0	506	4,752	0	3	3	1,896	3,223	320
12	23,231	-1,062	3,874	506	2,420	4,988	3	3	1,964	2,231	1,327
13	23,750	519	8,013	506	1,887	7,239	3	3	1,888	1,045	291
14	24,096	346	5,823	510	1,393	5,350	3	3	1,872	744	592
15	23,925	-171	10,911	506	1,344	12,429	3	3	1,872	720	2,095
16	24,304	379	19,393	599	0	18,112	3	3	1,916	0	421
17	23,996	-308	16,455	405	0	15,718	3	3	1,902	0	458
18	23,429	-567	17,009	607	0	16,979	3	3	1,914	0	716
19	23,564	135	15,490	405	0	14,369	3	3	1,902	0	517
20	22,900	-664	19,834	516	0	19,262	3	3	1,896	0	150
21	23,087	187	27,843	508	0	26,583	3	3	1,916	0	341
22	23,312	225	27,591	504	0	26,295	3	3	1,926	0	357
23	23,393	81	27,645	506	0	26,477	3	3	1,928	0	341
24	23,415	22	27,392	504	0	26,284	3	3	1,924	0	340
25	24,027	612	25,081	504	0	23,424	2	3	1,928	0	384
26	23,972	-55	25,328	502	0	24,747	2	3	1,942	0	809
27	23,764	-208	23,773	504	0	23,361	2	3	1,946	0	827
28	23,195	-569	12,667	504	0	12,038	2	2	1,924	0	226
29	23,559	364	13,876	506	0	13,253	2	2	1,918	0	1,157
30	23,763	204	13,805	498	1,622	13,300	2	2	1,924	615	122
31	23,176	-587	14,242	508	1,372	14,511	2	2	1,908	393	107
Total		-2,118	408,529	15,680	28,149	391,470	86	89	58,750	17,274	13,193

1/ Sum of Thermalito Forebay and Diversion Pool.

2/ Sum of releases from Lake Oroville through Hyatt plant, spill, and spillway leakage.

3/ Includes Bypass flows at Thermalito.

4/ The sum of the flows from fish barrier dam and the fish hatchery.

Table 6. Thermalito Afterbay

Daily Operation

(in acre-feet except as noted)

Capacity: 57,040 ac-ft

January 1998

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow		Outflow					Losses (-) and Gains (+)	Total Releases to River 2/
				Thermalito Pumping-Generating Plant Generation 1/	Sutter Butte Canal	Western Canal Lateral	Richvale Canal	Western Canal	Afterbay River Outlet	Thermalito Pumping-Generating Plant Pumpback		
Dec 31	131.38	36,891										
1	130.02	32,218	-4,673	864	869	3	333	383	1,474	2,852	377	3,337
2	131.03	35,660	3,442	6,379	871	2	335	355	1,377	0	3	3,228
3	129.72	31,227	-4,433	385	869	2	331	333	1,375	1,910	2	3,226
4	128.59	27,627	-3,600	1,564	865	2	333	333	1,381	2,290	40	3,232
5	130.87	35,104	7,477	10,337	871	2	335	303	1,381	0	32	3,244
6	131.71	38,070	2,966	7,012	817	2	301	238	1,384	1,089	-215	3,260
7	131.67	37,926	-144	4,573	817	2	284	180	1,783	1,644	-7	3,592
8	132.22	39,925	1,999	6,620	815	1	284	63	1,787	1,642	-29	3,634
9	133.83	46,050	6,125	9,017	817	0	284	0	1,783	0	-8	3,648
10	132.77	41,972	-4,078	0	486	0	286	0	1,785	1,932	411	3,653
11	130.99	35,521	-6,451	0	381	0	286	0	1,783	4,752	751	3,679
12	131.12	35,975	454	4,988	411	0	188	0	1,789	2,420	274	3,753
13	131.88	38,684	2,709	7,239	421	0	139	0	2,222	1,887	139	4,110
14	131.06	35,765	-2,919	5,350	127	0	139	0	6,843	1,393	233	8,715
15	131.29	36,573	808	12,429	0	0	46	0	9,679	1,344	-552	11,551
16	130.90	35,208	-1,365	18,112	0	0	0	0	18,189	0	-1,288	20,105
17	129.86	31,688	-3,520	15,718	0	0	0	0	17,058	0	-2,180	18,960
18	129.71	31,194	-494	16,979	0	0	0	0	16,463	0	-1,010	18,377
19	128.58	27,596	-3,598	14,369	0	0	0	0	16,919	0	-1,048	18,821
20	127.98	25,771	-1,825	19,262	0	0	0	0	20,827	0	-260	22,723
21	127.89	25,502	-269	26,583	0	0	0	0	26,182	0	-670	28,098
22	127.93	25,621	119	26,295	0	0	0	0	26,182	0	6	28,108
23	127.81	25,264	-357	26,477	0	0	0	0	26,182	0	-652	28,110
24	127.57	24,558	-706	26,284	0	0	0	0	26,182	0	-808	28,106
25	127.46	24,237	-321	23,424	0	0	0	0	22,810	0	-935	24,738
26	128.23	26,524	2,287	24,747	0	0	0	0	22,215	0	-245	24,157
27	129.57	30,737	4,213	23,361	0	0	0	0	18,129	0	-1,019	20,075
28	130.04	32,285	1,548	12,038	0	0	0	0	10,175	0	-315	12,099
29	130.63	34,277	1,992	13,253	0	0	0	0	10,175	0	-1,086	12,093
30	130.90	35,208	931	13,300	0	0	0	0	10,175	1,622	-572	12,099
31	131.58	37,603	2,395	14,511	0	0	0	0	10,195	1,372	-549	12,103
Total		712	391,470	9,437	16	3,904	2,188	335,884	28,149	-11,180		394,634

1/ Includes Bypass flows at Thermalito.

2/ The sum of the flows from the fish barrier dam, fish hatchery, and afterbay river outlet.

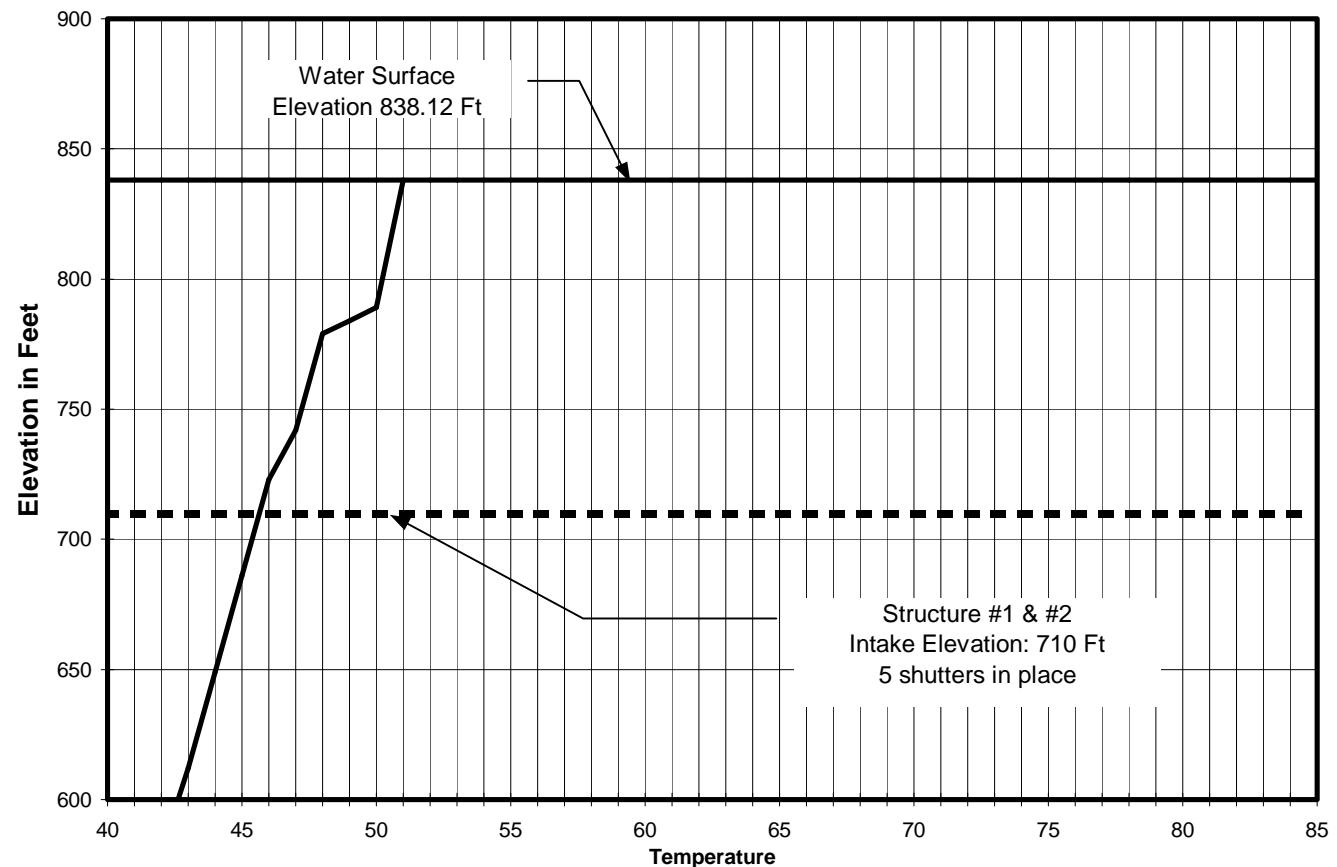
Table 7. Oroville-Thermalito Complex

Water Temperature Data

(in degrees Fahrenheit)

January 1998

Date	Mean Daily Temperature	
	Thermalito	Fish
1	43	47
2	44	47
3	45	47
4	45	47
5	45	47
6	45	47
7	45	47
8	45	47
9	45	46
10	45	46
11	46	47
12	47	47
13	47	47
14	47	47
15	47	47
16	48	47
17	49	47
18	48	47
19	47	47
20	46	46
21	45	47
22	46	47
23	45	46
24	46	46
25	46	46
26	46	46
27	46	46
28	47	46
29	47	46
30	47	45
31	47	46

**Lake Oroville Temperature Profile
on January 22, 1998**

Note: Water surface elevations on Table 4 are taken at Oroville Dam at midnight and may differ slightly from those shown on this table which are normally taken at mid-day and upstream from Oroville Dam.

Table 8. Aqueduct Operation**Delta Field Division**

(in acre-feet except as noted)

January 1998North Bay Aqueduct

Pumped at Barker Slough Pumping Plant	1,383
Travis Turnout	84
Fairfield/Vacaville Turnout	66
Pumped at Cordelia Pumping Plant	1,221
Cordelia Pumping Plant Spillway	0
Computed Losses (-) or Gains (+)	-12
Benicia Turnout	445
Vallejo Turnout	0
American Canyon 1	113
American Canyon 2	0
Napa Treatment Plan	663
Total Deliveries (After Cordelia)	1,221
Change in Storage at Napa Terminal Tank	0

California Aqueduct

Amount Pumped at Banks Pumping Plan	196,584
Amount Pumped at South Bay Pumping Plant	3,655
Deliveries From California Aqueduct (Oak Flat Water District, Tracy Golf, Veterans Cemetery, and Musco Olive Ranch)	38
Inflow into California Aqueduct	0
Change in Storage	61
Flow Past Check 12	190,204
Computed Losses (-) or Gains (+)	-2,626

Table 9. Delta Field Division Plant Data

(in acre-feet)

January 1998

Date	North Bay Aqueduct		California Aqueduct		South Bay Aqueduct		
	Barker Slough Pumping Plant	Cordelia Pumping Plant	Banks Pumping Plant		South Bay Pumping Plant	Del Valle Pumping Plant	
			Total 1/	SWP		Into Lake	Into Aqueduct
1	59	54	13,877	13,877	239	0	0
2	63	58	13,754	13,754	215	0	0
3	40	41	13,920	13,920	220	0	0
4	36	37	13,895	13,895	220	0	0
5	49	39	13,855	13,855	232	0	0
6	43	40	13,532	13,532	185	0	0
7	38	31	13,611	13,611	166	0	0
8	45	40	13,546	13,546	170	0	0
9	49	43	14,057	14,057	189	0	0
10	29	31	14,050	14,050	174	0	0
11	44	40	14,055	14,055	139	0	0
12	42	39	13,869	13,869	120	0	0
13	40	41	12,391	12,391	122	0	0
14	34	30	0	0	134	0	0
15	47	41	0	0	141	0	0
16	43	43	190	190	100	0	0
17	35	32	160	160	111	0	0
18	38	42	0	0	111	0	0
19	38	34	160	160	108	0	0
20	39	36	213	213	107	0	0
21	46	43	190	190	121	0	0
22	50	43	0	0	98	0	24
23	36	34	0	0	59	0	85
24	43	40	0	0	14	0	113
25	31	34	0	0	23	0	111
26	45	42	0	0	14	0	131
27	43	40	1,775	1,775	28	0	132
28	43	34	3,803	3,803	12	0	144
29	56	41	3,654	3,654	28	0	131
30	66	37	4,031	4,031	32	0	92
31	73	41	3,996	3,996	23	0	92
Total	1,383	1,221	196,584	196,584	3,655	0	1,054

1/ Pumping at Banks was reduced due to "low flow" delta fish test from 1/14/98 through 1/27/98.

Table 10. Clifton Court Forebay

Daily Operation of Gates

January 1998

Date	Time Opened	Time Closed	Amount of inflow in Acre-Feet	Date	Time Opened	Time Closed	Amount of inflow in Acre-Feet
1	---	01:52		16	10:44	13:13	147
	04:52	17:55					
	20:22	---	14,329				
2	---	02:36		17	10:50	12:30	138
	05:36	18:53					
	21:04	---	14,315	18	11:16	12:22	151
3	---	03:07		19	12:07	13:14	139
	11:07	---	14,308				
4	---	02:55		20	13:09	16:09	148
	11:54	---	13,377	21	09:04	09:51	147
5	---	04:10		22	11:07	11:50	151
	08:07	09:07					
	12:43	---	12,304				
6	---	10:05		23	01:37	04:10	151
	13:34	19:40					
	22:40	---	11,992	24	07:45	08:55	
					15:55	16:20	151
7	---	11:06		25	16:47	18:30	
	14:27	20:30			19:47	21:25	151
	23:50	---	13,332				
8	---	12:10		26	03:15	05:20	152
	15:20	21:41	14,019				
9	00:41	13:12		27	03:25	05:10	155
	16:15	21:15	14,380				
10	01:30	14:08		28	03:11	06:45	2,962
	16:52	20:52	14,372				
11	02:26	14:58					
	17:38	22:05	14,464				
12	02:57	15:49		29	03:55	07:09	2,964
	18:44	23:03	14,558				
13	03:28	16:34		30	04:32	08:18	3,967
	19:06	---	14,806				
14	---	00:03					
	07:54	09:40	152	31	00:42	02:15	
15	07:00	07:43	151		09:55	15:40	3,953

Total inflow for the month 196,486 AF

Table 11. Governor Edmund G. Brown California Aqueduct
Delta Field Division, Monthly Deliveries

(In acre-feet)

January 1998

Reach No.	Operating Pool		Turnout	Total Diversions	Deliveries					
	Beginning and Ending				Entitlement	USBR	Misc.	Loan Water	1996 Carryover Ent.	
	No.	Structure	Mile							
2A	1	Banks Pumping Plant	3.32		196,584					
	1	South Bay Pumping Plant	4.49	Bethany Reservoir Inlet	3,655					
		Check No. 1	5.95							
	2	Check No. 2	12.01							
	3		12.47	Musco Olive	36					
		Check No. 3	18.29							
	4		22.16	Tracy Golf & Country Club	0					
		Check No. 4	23.99							
	5	Check No. 5	29.73							
	6	Check No. 6	34.24							
	7		35.22	Turlock Fruit Company Inflow	0					
		Check No. 7	39.91							
2B	8		42.46	Oak Flat Water District-A	1					
			43.81	Oak Flat Water District-B	0					
			44.64	Oak Flat Water District-C	0					
		Check No. 8	45.97							
	9		46.18	Oak Flat Water District-D	0					
				Oak Flat Totals:	1	1	0	0	0	
		Check No. 9	51.30							
	10	Check No. 10	56.86							
	11	Check No. 11	61.40							
	12		66.14	Veteran's Cemetery	1					
		Check No. 12	66.71		190,204					

Table 12. South Bay Aqueduct
Delta Field Division, Monthly Deliveries

(In acre-feet)

January 1998

Reach No.	Operating Pool		Turnout	Total Diversions	Deliveries				
	Beginning and Ending				Entitle-ment	Ext. M & I Cry. Ovr. 1/	Local	Recre-ation	
	No.	Structure	Mile						
1	1	South Bay Pumping Plant	0.00	(into South Bay Aqueduct)	3,655	349	884	3	
			3.17	Granite - Vasco Rd. (Temp.)	0				
			3.18	Oakland Scavenger Zone 7	3				
	Check No. 1	3.91							
	2	Check No. 2	5.21						
2	3		7.21	Zone 7 Altamont	0	421	421		
		Check No. 3	9.49	Zone 7 Patterson Inflow Exchanged	421				
				Zone 7 Patterson Project Water	0				
4	4	Check No. 4	10.68			117	117		
	5	Check No. 5	12.29						
	6		13.55	Zone 7 Wente #1	0				
			14.16	Zone 7 Wente #2	0				
		Check No. 6	14.65						
	7		14.78	Zone 7 Arroyo Mocho	117				
		Check No. 7	16.38						
	8		16.57	Zone 7 Wente #3	0	17	17		
			16.69	Zone 7 Norman Nursery	0				
			16.70	Zone 7 Concannon Stored Exchange	0				
		Del Valle Branch Pipeline Junction	18.63	(Flow into Lake Del Valle)	0				
				(Flow into South bay Aqueduct)	1,054				
5	8	Deliveries through Del Valle Branch Pipeline		Arroyo Valle #1 & #2		109	109		
				Inflow Released	17				
				Arroyo Valle #1 & #2					
				Inflow Exchanged	109				
				Lake Del Valle					
6				Recreation	0	4	4		
				Zone 7					
				Wente #5	4				
			19.20	So. Livermore Project	0				
7		La Costa Tunnel		So. Livermore Inflow Released	1,037	1,037	1,037		
				So. Livermore Inflow Exchanged	0				
			19.21	Zone 7 - Kalthrof Detjens	0				
8		Mission Tunnel	22.50	ACWD Vallecitos	65	65	65		
			25.97	City of San Francisco San Antonio	0				
				ACWD - Bayside 1 & 2 Project Water:	0				
9		Santa Clara Pipeline	28.97	Inflow Exchanged:	1,693	349	884	1,693	
			35.86	Stored Released:	0				

1/ Extended Municipal and Industrial Carryover Entitlement under Article 56 of the Monterey Agreement.

Table 13. Lake Del Valle

Daily Operation

(in acre-feet except as noted)

January 1998

Capacity: 77,106 ac-ft

Date	Water Surface Elevation (feet)	Storage	Storage Change	Inflow		Outflow					Precipitation (inches)
				Natural 1/ 3/	From South Bay Aqueduct	Arroyo Valle	South Bay Aqueduct	Recreation Deliveries 2/	Evaporation	Total Outflow	
Dec 31	680.60	26,093									
1	680.62	26,103	10		0	0	0	0	0	0	0.00
2	680.65	26,119	16		0	0	0	0	1	1	0.15
3	680.69	26,140	21		0	0	0	0	0	0	0.05
4	680.92	26,260	120		0	0	0	0	1	1	0.60
5	681.17	26,390	130		0	0	0	0	1	1	0.00
6	681.32	26,469	79		0	0	0	0	2	2	0.05
7	681.46	26,543	74		0	0	0	0	2	2	0.16
8	681.59	26,612	69		0	0	0	0	0	0	0.00
9	681.71	26,675	63		0	0	0	0	1	1	0.01
10	681.92	26,786	111		0	0	0	0	0	0	0.10
11	682.31	26,995	209		0	0	0	0	0	0	0.10
12	683.94	27,880	885		0	0	0	0	4	4	0.39
13	685.86	28,954	1,074		0	0	0	0	4	4	0.38
14	686.45	29,291	337		0	0	0	0	0	0	0.13
15	689.09	30,835	1,544		0	0	0	0	0	0	0.50
16	691.09	32,045	1,210		0	0	0	0	1	1	0.22
17	691.81	32,488	443		0	0	0	0	0	0	0.04
18	692.93	33,186	698		0	0	0	0	2	2	0.00
19	695.38	34,747	1,561		0	0	0	0	1	1	1.23
20	696.30	35,347	600		0	0	0	0	3	3	0.14
21	696.82	35,689	342		0	0	0	0	1	1	0.02
22	697.13	35,895	206		0	0	23	0	2	25	0.00
23	697.26	35,981	86		0	0	85	0	3	88	0.00
24	697.29	36,001	20		0	0	113	0	0	113	0.00
25	697.29	36,001	0		0	0	100	0	1	101	0.00
26	697.24	35,967	-34		0	0	129	0	1	130	0.00
27	697.18	35,928	-39		0	0	138	0	0	138	0.24
28	697.09	35,868	-60		0	0	139	0	1	140	0.00
29	697.69	36,267	399		0	0	129	0	7	136	0.68
30	698.18	36,594	327		0	0	109	0	1	110	0.01
31	698.46	36,783	189		0	0	89	0	1	90	0.01
Total		10,690	11,788		0	0	1,054	0	44	1,098	5.21

1/ Total inflow from stream gaging station above Lang Canyon and accretions/depletions.

2/ To East Bay Regional Park District.

3/ Not available on a daily basis.

NR=No Records

Table 14. Consolidated State-Federal O'Neill Forebay

Daily Operations

January 1998

United States

Department of the Interior

Bureau of Reclamation

Central Valley Project

State of California

The Resources Agency

Department of Water Resources

State Water Project

Capacity: 56,430 Acre-feet

Date	Water Surface Elev. (in feet)	Storage (ac-ft)	Storage Change (ac-ft)	Inflow (cfs)				Outflow (cfs)				Computed Losses (-) Gains (+) (cfs)
				Pump In 1/	O'Neill Pumping Generating Plant (Pumped)	Gianelli Pumping Generating Plant (Generation)	California Aqueduct 2/	O'Neill Pumping Generating Plant (Generation)	Gianelli Pumping Generating Plant (Pumped)	Dos Amigos Pumping Plant	Deliveries 3/	
Dec 31	222.01	48,411										
1	221.08	45,970	-2,441	0	3,817	0	6,676	0	10,261	1,932	2	471
2	221.56	47,230	1,260	0	3,771	0	6,545	0	8,189	2,035	2	545
3	222.23	48,995	1,765	0	3,743	0	6,862	0	8,158	1,940	2	385
4	220.95	45,629	-3,366	0	3,781	0	6,794	0	11,213	1,667	2	610
5	221.57	47,257	1,628	0	3,376	0	6,876	0	7,992	1,605	2	168
6	220.94	45,603	-1,654	0	2,534	0	6,500	0	8,161	2,220	2	515
7	220.07	43,334	-2,269	0	2,117	0	6,723	0	8,193	2,589	2	800
8	219.63	42,196	-1,138	0	2,792	0	6,608	0	6,889	3,294	2	211
9	220.28	43,879	1,683	0	3,377	0	6,870	0	6,323	3,456	2	383
10	221.22	46,337	2,458	0	3,409	0	6,915	0	6,329	3,025	2	271
11	221.22	46,337	0	0	3,439	0	6,987	0	8,059	2,721	2	356
12	222.98	50,993	4,656	0	3,652	0	6,853	0	5,439	3,038	8	327
13	223.50	52,384	1,391	0	3,783	0	6,298	0	7,057	2,657	5	339
14	222.09	48,624	-3,760	0	3,745	0	36	0	3,166	2,792	5	286
15	221.53	47,152	-1,472	0	3,628	1,360	0	0	3,082	2,908	5	265
16	221.61	47,362	210	0	3,670	2,039	0	0	3,012	2,910	9	328
17	221.40	46,810	-552	0	3,725	2,050	0	0	2,623	3,349	3	-78
18	219.92	42,945	-3,865	0	3,705	1,538	0	0	4,573	3,685	6	1,072
19	220.40	44,192	1,247	0	3,801	1,868	63	0	1,857	3,174	6	-66
20	220.91	45,525	1,333	0	3,764	1,696	0	0	1,917	2,931	12	72
21	220.44	44,296	-1,229	0	3,447	1,861	0	0	2,910	3,051	14	47
22	219.96	43,048	-1,248	0	3,365	1,015	0	0	2,413	2,934	13	351
23	220.54	44,557	1,509	0	3,483	1,691	0	0	1,200	3,144	15	-54
24	220.21	43,697	-860	0	3,300	1,861	0	0	1,350	4,361	12	128
25	218.87	40,255	-3,442	0	3,223	2,033	0	0	3,030	4,151	12	202
26	219.88	42,841	2,586	0	3,219	2,302	0	0	1,350	3,658	10	801
27	220.80	45,237	2,396	0	3,205	2,559	452	0	1,350	3,833	13	188
28	220.67	44,897	-340	0	3,275	0	1,925	0	1,357	4,219	13	218
29	220.46	44,348	-549	0	3,621	0	1,787	0	1,777	3,940	13	45
30	220.51	44,479	131	0	3,597	0	2,074	0	1,781	4,008	13	197
31	220.57	44,635	156	0	3,704	0	2,051	0	1,781	4,031	9	145
Total			-3,776	0	107,068	23,873	95,895	0	142,792	95,258	218	9,528
Mean cfs			---	0	3,454	770	3,093	0	4,606	3,073	7	307
ac-ft			-3,776	0	212,362	47,355	190,204	0	283,227	188,942	433	18,905

1/ Pump-in located at Mile 79.67R.

2/ Flow past Check 12 was reduced due to a cutback in Banks pumping for a "low flow" Delta fish test from 1/14/98 to 1/27/98.

3/ Includes 23 AF delivered to DFG at O'Neill Forebay; does not include Parks and Recreation deliveries shown on Table 19a.

Total Parks and Recreation deliveries for the year are included in December's operation report.

Table 15. Consolidated State-Federal San Luis Reservoir

Daily Operations

January 1998

United States

Department of the Interior

Bureau of Reclamation

Central Valley Project

State of California

The Resources Agency

Department of Water Resources

State Water Project

Capacity: 2,027,835 ac-ft

Date	Water Surface Elev. (in feet)	Storage (ac-ft)	Storage Change (ac-ft)	Inflow (cfs)	Outflow (cfs)			Computed Losses (-) Gains (+) (cfs)	Evap. (in)	Prec. (in)
				Gianelli Pumping Generating Plant (Pumped)	Gianelli Pumping Generating Plant (Generation)	Pacheco Tunnel 1/	Sisk Dam Spill			
Dec 31	511.62	1,642,982								
1	513.26	1,662,396	19,414	10,261	0	16	0	-457	0.00	0.00
2	514.53	1,677,485	15,089	8,189	0	19	0	-563	0.00	0.04
3	515.81	1,692,739	15,254	8,158	0	15	0	-453	0.00	0.08
4	517.56	1,713,671	20,932	11,213	0	14	0	-646	0.05	0.22
5	518.84	1,729,038	15,367	7,992	0	15	0	-230	0.05	0.08
6	520.10	1,744,210	15,172	8,161	0	92	0	-420	0.04	0.00
7	521.32	1,758,945	14,735	8,193	0	96	0	-668	0.01	0.18
8	522.40	1,772,024	13,079	6,889	0	145	0	-150	0.02	0.01
9	523.41	1,784,286	12,262	6,323	0	141	0	0	0.01	0.01
10	524.39	1,796,212	11,926	6,329	0	141	0	-175	0.03	0.54
11	525.63	1,811,340	15,128	8,059	0	153	0	-279	0.02	0.17
12	526.50	1,821,981	10,641	5,439	0	163	0	89	0.01	0.12
13	527.54	1,834,729	12,748	7,057	0	183	0	-447	0.09	0.45
14	527.99	1,840,255	5,526	3,166	0	166	0	-214	0.03	0.02
15	528.24	1,843,327	3,072	3,082	1,360	146	0	-27	0.00	0.25
16	528.36	1,844,802	1,475	3,012	2,039	135	0	-94	0.02	0.10
17	528.44	1,845,786	984	2,623	2,050	140	0	63	0.03	0.00
18	528.89	1,851,323	5,537	4,573	1,538	159	0	-84	0.06	0.00
19	528.86	1,850,954	-369	1,857	1,868	167	0	-8	0.14	0.49
20	528.87	1,851,077	123	1,917	1,696	177	0	18	0.05	0.04
21	528.98	1,852,431	1,354	2,910	1,861	170	0	-196	0.04	0.00
22	529.15	1,854,525	2,094	2,413	1,015	160	0	-182	0.02	0.00
23	529.03	1,853,047	-1,478	1,200	1,691	149	0	-105	0.02	0.01
24	528.92	1,851,693	-1,354	1,350	1,861	176	0	4	0.02	0.00
25	529.02	1,852,924	1,231	3,030	2,033	171	0	-205	0.01	0.00
26	528.77	1,849,846	-3,078	1,350	2,302	177	0	-423	0.04	0.02
27	528.53	1,846,893	-2,953	1,350	2,559	167	0	-113	0.02	0.00
28	528.70	1,848,985	2,092	1,357	0	162	0	-140	0.04	0.00
29	529.00	1,852,678	3,693	1,777	0	154	0	239	0.09	0.33
30	529.25	1,855,757	3,079	1,781	0	79	0	-150	0.06	0.13
31	529.49	1,858,715	2,958	1,781	0	79	0	-211	0.02	0.06
Total		215,733		142,792	23,873	3,927	0	-6,228	1.04	3.35
Mean cfs ac-ft		---		4,606	770	127	0	-201	---	---
		215,733		283,227	47,355	7,793	0	-12,346	---	---

1/ Pacheco Tunnel, San Felipe Split; Santa Clara: 7,716 AF, San Benito: 77 AF.

Table 16. San Luis Field Division Plant Data

(in acre-feet)

January 1998

Date	Dos Amigos Pumping Plant		Gianelli Pumping - Generating Plant				San Felipe Project
	Total Pumping	SWP Pumping 1/, 2/	Total Generation	SWP Generation 1/, 2/	Total Pumping	SWP Pumping 1/, 2/	Federal
1	3,832	2,531	0	0	20,353	10,175	32
2	4,036	2,757	0	0	16,243	12,417	38
3	3,848	2,565	0	0	16,181	11,211	30
4	3,306	2,061	0	0	22,241	11,024	28
5	3,184	1,989	0	0	15,852	11,169	30
6	4,403	3,152	0	0	16,187	11,828	182
7	5,135	3,880	0	0	16,251	11,383	190
8	6,534	5,336	0	0	13,664	9,225	288
9	6,855	5,639	0	0	12,542	8,055	280
10	6,000	4,782	0	0	12,554	8,128	280
11	5,397	4,175	0	0	15,985	6,615	303
12	6,026	4,776	0	0	10,788	6,958	323
13	5,270	3,503	0	0	13,998	10,638	363
14	5,538	3,824	0	0	6,280	-12	329
15	5,768	3,713	2,698	2,698	6,113	-10	290
16	5,772	3,721	4,044	4,044	5,974	52	268
17	6,643	4,231	4,066	4,066	5,203	61	278
18	7,309	4,889	3,051	3,051	9,071	-135	315
19	6,296	3,919	3,705	3,705	3,683	-6	331
20	5,814	3,410	3,364	3,364	3,802	-28	351
21	6,052	3,749	3,691	3,691	5,772	-22	337
22	5,820	2,912	2,013	2,013	4,786	16	317
23	6,236	3,045	3,354	3,354	2,380	-4	296
24	8,650	5,391	3,691	3,691	2,678	-4	349
25	8,234	4,979	4,032	4,032	6,010	-113	339
26	7,256	4,015	4,566	4,566	2,678	109	351
27	7,603	3,792	5,076	5,076	2,678	-6	331
28	8,368	4,556	0	0	2,692	2	321
29	7,815	4,009	0	0	3,525	-14	305
30	7,950	4,151	0	0	3,533	46	157
31	7,995	4,217	0	0	3,533	20	157
Total	188,944	119,669	47,355	47,355	283,227	128,779	7,793

1/ Negative values may appear in SWP columns and indicate a mismatch of scheduled CVP energy and actual pumping;

adjustments to SWP water shares are made to balance the mismatch.

2/ Provisional, subject to change.

Table 17. Consolidated State-Federal Los Banos Reservoir

Daily Operations

January 1998

United States

Department of the Interior

Bureau of Reclamation

Central Valley Project

Capacity: 34,560 ac-ft

State of California

The Resources Agency

Department of Water Resources

State Water Project

Date	Water Surface Elev. (in feet)	Storage (ac-ft)	Storage Change (ac-ft)	Estimated Inflow (cfs)	Estimated Outflow (cfs)		Computed Losses (-) Gains (+) (ac-ft)	Evap. (in)	Prec. (in)
					Spill	Outlet			
Dec 31	327.66	20,510							
1	327.69	20,524	14	7	0	0	0	0.00	0.00
2	327.71	20,533	9	5	0	0	-1	0.04	0.09
3	327.73	20,543	10	5	0	0	0	0.04	0.01
4	327.79	20,571	28	14	0	0	0	0.08	0.20
5	327.67	20,515	-56	30	0	58	-1	0.05	0.11
6	327.33	20,356	-159	20	0	100	0	0.04	0.01
7	326.98	20,193	-163	18	0	100	0	0.06	0.25
8	326.94	20,174	-19	24	0	33	-1	0.02	0.02
9	327.06	20,230	56	28	0	0	0	0.01	0.03
10	327.73	20,543	313	158	0	0	0	0.03	0.39
11	327.73	20,543	0	133	0	133	0	0.04	0.14
12	328.46	20,887	344	315	0	142	1	0.00	0.10
13	328.85	21,072	185	260	0	166	-1	0.10	0.46
14	328.46	20,887	-185	107	0	200	-1	0.05	0.03
15	332.19	22,693	1,806	1,111	0	200	-1	0.21	0.00
16	332.80	22,996	303	486	0	333	-1	0.10	0.04
17	331.56	22,382	-614	141	0	450	-1	0.08	0.00
18	331.94	22,569	187	411	0	317	1	0.05	0.00
19	333.20	23,196	627	639	0	323	0	0.15	0.27
20	332.15	22,673	-523	187	0	450	-1	0.05	0.00
21	330.74	21,981	-692	101	0	450	0	0.04	0.00
22	329.16	21,219	-762	66	0	450	0	0.05	0.00
23	328.18	20,754	-465	66	0	300	-1	0.02	0.01
24	327.80	20,576	-178	60	0	150	1	0.03	0.00
25	327.39	20,384	-192	53	0	150	0	0.02	0.00
26	326.96	20,183	-201	49	0	150	-1	0.01	0.01
27	326.49	19,966	-217	41	0	150	-1	0.04	0.00
28	326.16	19,813	-153	42	0	119	0	0.05	0.00
29	326.85	20,132	319	261	0	100	0	0.13	0.40
30	326.93	20,169	37	160	0	142	1	0.05	0.00
31	326.45	19,947	-222	88		200	0	0.02	0.04
Total			-563	5,086	0	5,366	-8	1.66	2.61
Mean cfs-days			- - -	164	0	173	- - -	- - -	- - -
Acre-feet			-563	10,088	0	10,643	-8	- - -	- - -

Table 18. Consolidated State-Federal Little Panoche Reservoir

Daily Operations

January 1998

United States

Department of the Interior

Bureau of Reclamation

Central Valley Project

Capacity: 5,580 ac-ft

State of California

The Resources Agency

Department of Water Resources

State Water Project

Date	Water Surface Elev. (in feet)	Storage (ac-ft) 1/	Storage Change (ac-ft) 1/	Computed Inflow (cfs)	Estimated Outflow (cfs)		Computed Losses (-) Gains (+) (ac-ft) 1/
					Spill	Outlet	
Dec 31	602.65	829					
1	602.65	829		2	0	2	
2	602.65	829		2	0	2	0
3	Not Observed			2	0	2	
4	Not Observed			2	0	2	
5	Not Observed			2	0	2	
6	Not Observed			2	0	2	
7	Not Observed			2	0	2	
8	Not Observed			2	0	2	
9	602.65	829	0	2	0	2	0
10	Not Observed			3	0	2	
11	602.75	835	6	4	0	3	2
12	Not Observed			5	0	3	
13	Not Observed			5	0	3	
14	Not Observed			5	0	3	
15	Not Observed			5	0	3	
16	603.08	855	20	31	0	29	16
17	Not Observed			31	0	29	
18	Not Observed			31	0	29	
19	603.20	863	8	33	0	32	-2
20	603.00	850	-13	9	0	16	1
21	Not Observed			15	0	16	
22	Not Observed			15	0	16	
23	Not Observed			3	0	4	
24	Not Observed			3	0	4	
25	Not Observed			3	0	4	
26	Not Observed			3	0	4	
27	Not Observed			3	0	4	
28	Not Observed			3	0	4	
29	Not Observed			3	0	4	
30	602.77	837	-13	4	0	5	6
31	602.77	837	0	4	0	5	2
Total			8	239	0	240	---
Mean cfs ac-ft			---	8	0	8	---
			8	474	0	475	9

1/ Not available on a daily basis

Table 19a. Governor Edmund G. Brown California Aqueduct

San Luis Field Division, Monthly Deliveries

(In acre-feet)

January 1998

Reach No.	Operating Pool			Turnout	Total Diver-sions	Deliveries							
	Beginning and Ending					USBR	Transfer	DWR	USBR				
	No.	Structure	Mile					Recreation	Recreation				
2B	12	Check No. 12	66.71		190,204								
3	13	O'Neill Forebay		Department of Parks and Recreation	2			1	1				
		Outlet Check No. 13	70.85	Department of Fish & Game	23			13	10				
		Thru	70.91	San Luis Water District	410	410	0	14	11				
			85.08										
		Reach 3 Subtotal:		435									
		Dos Amigos Pumping Plant	86.73		188,942								
4	14	Thru	89.03	San Luis Water District	1,176	1,176	57	1,757	61				
			94.06										
		Thru	89.66	Pacheco Water District	57								
			89.67										
		95.06	89.68	Panoche Water District	1,757								
		95.06	89.70	City of Dos Palos	61								
		95.06	98.15	San Luis Water District	257								
		95.06	104.20										
		95.06	96.15	Panoche Water District	0								
		95.06	102.64										
	15	108.50	102.64	Broadview Water District	2								
		108.50	105.22	Westlands Water District	5,107								
		108.50	108.64										
		108.50	Pacheco Water District Total:	57		57	0	0	0				
		108.50	Broadview Water District Total:	2		2	0	0	0				
		108.50	City of Dos Palos Total:	61		61	0	0	0				
		108.50	SLWD Reach 4 Subtotal:	1,433		1,433	0	0	0				
		108.50	Panoche Water District Total:	1,757		1,757	0	0	0				
		108.50	SLWD Total:	1,843		1,843	0	0	0				
		108.50	Westlands WD Reach 4 Subtotal:	5,107		5,107	0	0	0				

Table 19b. Governor Edmund G. Brown California Aqueduct

San Luis Field Division, Monthly Deliveries (Continued)

(In acre-feet)

January 1998

Reach No.	Operating Pool			Turnout	Total Diver-sions	Deliveries							
	Beginning and Ending					USBR	Transfer 1/	DWR	USBR				
	No.	Structure	Mile					Recreation	Recreation				
5	16		110.52	Westlands Water District	9,950	9,950	8,840	8,901	4,547				
		Thru	122.05	Department of Fish and Game	0								
		Check No. 16	122.07										
	17		124.18	Westlands Water District	8,840								
		Thru	132.74										
		Check No. 17	132.95										
	18		133.81	Westlands Water District	8,901								
		Thru	142.61										
		Pleasant Valley Pumping Plant	143.16	Westlands Water District	4,547								
			143.16	City of Coalinga	231								
		Check No. 18	143.23										
				Westlands WD Reach 5 Subtotal:	32,238	32,238	0	0	0				
6	19		145.26	Westlands Water District	14,354	14,354	86	1,598	46				
		Thru	151.19										
		Check No. 19	155.64										
				Westlands WD Reach 6 Subtotal:	14,354	14,354	0	0	0				
7	20		156.34	City of Huron	46	11,038	86	1,598	46				
		Thru	156.40	Westlands Water District	11,124								
			163.69										
		Check No. 20	164.69										
	21		164.79	City of Avenal	167	167	1,598	0	0				
		Thru	167.04	Westlands Water District	1,598								
			171.67										
		Check No. 21	172.40		112,995								
				Reach 7 Total:	12,935	11,251	1,684	0	0				
				Westlands WD Total:	64,421	62,737	1,684	0	0				
				City of Coalinga Total:	231	231	0	0	0				
				City of Huron Total:	46	46	0	0	0				
				City of Avenal Total:	167	167	0	0	0				
				Phase I Water Total:	0	0	0	0	0				
				Total San Luis Field Division Deliveries:	68,610	66,901	1,684	14	11				

1/ KCWA 1997 Ag. Carryover Entitlement delivered to WWD in accordance to agreement dated 8/20/97.

Table 20. Consolidated State-Federal San Luis Canal 1/

Daily Operations
January 1998

United States
Department of the Interior
Bureau of Reclamation
Central Valley Project

State of California
The Resources Agency
Department of Water Resources
State Water Project

Date	Storage In Canal (ac-ft)	Storage Change (ac-ft)	Inflow (cfs)		Outflow (cfs)				Computed Losses (-) Gains (+) (cfs)	Evap. (in)	Prec. (in)
			Non- Project 2/	Dos Amigos Pumping Plant	SLWD 3/	PWD	WWD 4/	SJFD			
Dec 31	28,451										
1	28,483	32	0	1,932	10	31	629	1,173	-73	0.00	0.00
2	28,384	-99	0	2,035	13	31	518	1,404	-119	0.00	0.04
3	28,610	226	0	1,940	13	31	680	891	-211	0.00	0.08
4	28,504	-106	0	1,667	10	31	652	1,013	-14	0.05	0.22
5	27,527	-977	0	1,605	10	31	650	1,411	5	0.05	0.08
6	27,243	-284	0	2,220	16	22	924	1,350	-52	0.04	Trace
7	27,076	-167	0	2,589	15	20	689	1,568	-381	0.01	0.18
8	27,247	171	0	3,294	14	23	1,040	2,104	-26	0.02	0.01
9	27,576	329	0	3,456	16	34	807	2,122	-312	0.01	0.01
10	27,536	-40	0	3,025	14	20	948	1,946	-118	0.03	0.54
11	27,494	-42	0	2,721	14	20	1,091	1,667	50	0.02	0.17
12	27,721	227	0	3,038	18	23	1,120	1,884	121	0.01	0.12
13	27,665	-56	2	2,657	18	13	1,101	1,397	-158	0.09	0.45
14	27,353	-312	1	2,792	16	17	762	1,821	-335	0.03	0.02
15	27,581	228	1	2,908	28	23	1,183	1,590	30	0.00	0.25
16	27,205	-376	1	2,910	29	28	1,092	1,822	-130	0.02	0.10
17	27,413	208	1	3,349	36	29	971	1,876	-333	0.03	0.00
18	27,784	371	1	3,685	25	30	1,053	2,255	-136	0.06	0.00
19	27,836	52	1	3,174	35	29	1,182	1,873	-29	0.14	0.49
20	27,712	-124	1	2,931	25	30	1,318	1,659	38	0.05	0.04
21	27,584	-128	1	3,051	47	38	1,283	1,787	39	0.04	Trace
22	27,316	-268	1	2,934	25	30	1,288	1,755	28	0.02	Trace
23	26,785	-531	1	3,144	32	29	1,252	1,991	-108	0.02	0.01
24	27,255	470	1	4,361	23	26	1,183	2,464	-429	0.02	0.00
25	27,473	218	1	4,151	26	28	1,187	2,524	-277	0.01	0.00
26	27,604	131	1	3,658	35	34	1,286	2,066	-172	0.04	0.02
27	27,468	-136	1	3,833	29	22	1,275	2,196	-380	0.02	0.00
28	27,983	515	1	4,219	48	38	1,330	2,272	-272	0.04	0.00
29	27,789	-194	1	3,940	40	38	1,323	2,413	-224	0.09	0.33
30	27,847	58	1	4,008	51	36	1,477	2,275	-140	0.06	0.13
31	27,835	-12	1	4,031	51	31	1,413	2,396	-147	0.02	0.06
Total		-616	20	95,258	782	866	32,707	56,967	-4,266	1.04	3.35
Mean (cfs)		---	1	3,073	25	28	1,055	1,838	-138	---	---
Acre-feet		-616	40	188,942	1,551	1,757	64,875	112,995	-8,420	---	---

1/ San Luis Canal includes Pools 14 through 21 of the California Aqueduct.

2/ Pump In of Non-Project Water (0 AF) and Flood Water (40 AF) is included in the gain or loss on a daily average basis.

3/ Includes 56 AF AG & 1 AF M&I to Pacheco W.D. and 61 AF to the City of Dos Palos.

4/ Includes 46 AF to the City of Huron, 167 AF to the City of Avenal, 231 AF to the City of Coalinga, 8 AF Phase I Water @Lat.16R, and 2 AF to Broadview W.D.

Table 21. San Joaquin Field Division Plant Data

(in acre-feet)

January 1998

Date	Coastal Aqueduct					California Aqueduct			
	Las Perillas Pumping Plant	Badger Hill Pumping Plant	Devil's Den Pumping Plant	Bluestone Pumping Plant	Polonio Pass Pumping Plant	Buena Vista Pumping Plant	Teerink Pumping Plant	Chrisman Pumping Plant	Edmonston Pumping Plant
1	57	67	47	43	47	1,522	1,481	1,416	1,362
2	124	141	47	43	49	1,469	1,404	1,359	1,315
3	109	114	46	42	47	1,260	1,186	1,109	1,211
4	59	76	33	31	35	1,470	1,461	1,354	1,309
5	85	87	29	27	31	1,308	1,259	1,250	1,290
6	134	162	48	44	49	1,155	1,242	1,260	1,259
7	123	129	47	46	50	1,322	1,375	1,369	1,255
8	70	85	23	20	23	1,260	1,307	1,312	1,282
9	64	70	36	34	37	1,312	1,299	1,317	1,282
10	47	50	26	23	27	1,260	1,287	1,203	1,200
11	85	85	46	42	48	1,340	1,191	1,213	1,233
12	70	82	44	39	44	1,208	1,359	1,166	1,140
13	59	66	31	28	33	950	1,011	995	1,039
14	85	94	44	40	48	1,328	1,337	1,317	1,309
15	59	59	16	14	16	1,307	1,349	1,307	1,309
16	248	237	46	42	48	2,367	2,349	2,380	2,367
17	28	39	48	44	51	2,157	2,007	1,984	2,127
18	51	51	27	25	27	2,519	2,572	2,499	2,618
19	59	59	46	42	47	1,986	1,934	1,901	1,833
20	21	21	36	33	38	1,522	1,572	1,526	1,552
21	56	63	44	47	51	1,469	1,517	1,484	1,448
22	49	50	39	36	40	630	641	630	855
23	33	36	23	21	23	757	674	683	655
24	20	23	35	32	37	920	839	750	655
25	56	58	32	27	32	945	787	734	709
26	20	27	46	37	47	787	725	729	764
27	85	93	32	30	34	1,077	854	776	736
28	120	138	31	27	32	1,055	832	791	766
29	141	165	46	43	50	1,050	836	844	757
30	220	230	46	44	47	814	832	791	756
31	307	311	46	42	48	972	781	786	756
Total	2,744	2,968	1,186	1,088	1,236	40,498	39,300	38,235	38,149

Table 22a. Governor Edmund G. Brown California Aqueduct

San Joaquin Field Division, Monthly Deliveries

(In acre-feet)

January 1998

Reach No.	Operating Pool			Turnout	Total Diversions	Deliveries							
	Beginning and Ending					Entitle-ment	Inter-ruptible Ent.	Carry-over	USBR	MWD 1/			
	No.	Structure	Mile										
7	21	Check No. 21	172.40		112,995								
8C	22			Empire West Side Irrig. Dist.		3	12 5,574	542 27 1,099	542				
				TL - A	542								
				172.66 County of Kings	15								
				TLBWS	5,574								
				175.18 DRWD - 1	70								
				180.64 TLB WSD - C	0								
				180.65 DRWD - SD	0								
				Dudley Ridge Water Dist.									
				182.99 DRWD - 2	1,099								
				183.00 TLB WSD TL - B	3,521								
31A				184.63 Coastal Branch	2,744								
8D				Dudley Ridge Water Dist.									
				184.78 DRWD - 3	621								
				Dudley Ridge Reach 8D Total:	1,790	43	0	1,747	0	0			
				Tulare Lake Basin WSD Total:	9,095	0	9,095	0	0	0			
9	23			Check No. 22	184.82								
				Kern County Water Agency		732	58	343					
				189.69 Lost Hills Water Dist. - 1	790								
				191.18 Kern County Water Agency									
				191.18 Lost Hills Water Dist. - 2	343								
				194.22 Kern County Water Agency									
				194.22 Lost Hills Water Dist. - 3	296								
				196.40 Kern County Water Agency									
				196.40 Berrenda Mesa - 2	0								
				196.75 Kern County Water Agency									
				196.75 Lost Hills Water Dist. - 4	494								
				K.C.W.A. Reach 9 Subtotal:	1,923	0	1,522	401	0	0			
10A	24			Check No. 23	197.05								
				Kern County Water Agency		44	617	1,101	1,101				
				201.24 Lost Hills Water Dist. - 7	44								
				202.05 Kern County Water Agency									
				202.05 Lost Hills Water Dist. - 5	617								
				204.69 Kern County Water Agency									
				204.69 Lost Hills Water Dist. - 6	0								
				205.26 Kern County Water Agency									
				205.26 Lost Hills Water Dist. - 8	0								
				Check No. 24	207.94								
	25			Kern County Water Agency		448	451	27 257	2,500				
				209.71 Belridge Water Storage Dist. - 1A	0								
				Kern National Wildlife Refuge									
				USBR BV-1B	1,101								
				209.78 Kern County Water Agency									
				Buena Vista WSD 1B	495								
				KCWA Semitropic WSD	257								
				KCWA Semitropic WSD Penstocks	3,033								
				USBR Total:	1,101	0	0	0	1,101	0			
				K.C.W.A. Reach 10A Subtotal:	4,446	1,129	451	366	0	2,500			

1/ Includes 2,500 AF Semitropic WSD stored for MWD, 667 AF of which was returned by the USBR to MWD from O'Neill Forebay.

Table 22b. Governor Edmund G. Brown California Aqueduct

San Joaquin Field Division, Monthly Deliveries (Continued)

(In acre-feet)

January 1998

Reach No.	Operating Pool		Turnout	Total Diversions	Deliveries					
	Beginning and Ending				Entitlement	Inter-ruptible Ent.	Carry-over	USBR	MWD 2/	
	No.	Structure	Mile							
11B	25		Kern County Water Agency Belridge - 2	0	479	1,160	1,160	0	0	
			Kern County Water Agency Belridge - 3	0						
			Kern County Water Agency Belridge - 4	0						
			Kern County Water Agency Belridge - 5	1,639						
			Kern County Water Agency Belridge - 5D	93						
		Check No. 25	217.79							
			K.C.W.A. Reach 11B Subtotal:	1,732	572	0	1,160	0	0	
12D	26		Kern County Water Agency Belridge - 6	0	2,510	5,802	10,253	13,731	10,973	
		Check No. 26	224.92							
12E	27		Kern County Water Agency Buena Vista - 6	2,510						
			230.37							
			Check No. 27	231.73						
			235.75	Kern County Water Agency Buena Vista - 2						
			238.04	Kern County WA CVC	5,802	34,957				
	28		DRWD CVC	0						
			Tulare Co.	0						
			Lower Tule River	0						
			Fresno Co.	0						
			Pixley ID	0						
			Hacienda	0						
			DWR Wells	0						
		Check No. 28	238.11							
			1/ Arvin Edison Total:	0	0	0	0	0	0	
			Reach 12E Subtotal:	43,269	8,312	10,253	13,731	0	10,973	
13B	29		241.02	Kern River Intertie (inflow)	0	567	1,934	175	580	
			242.85	KCWA Buena Vista WSD - 7	567					
			243.09	KCWA Buena Vista WSD - 5	0					
			Check No. 29	Buena Vista - 3	2,109					
			244.54	Buena Vista WSD	0					
	30		249.85	Kern County Water Agency Buena Vista - 4	580					
			250.99	Buena Vista Pumping Plant	40,498					
				K.C.W.A. Reach 13B Subtotal:	3,256	2,501	0	755	0	
14A	31		254.47	Kern County Water Agency West Kern - 2	0	48				
			256.11	Kern County Water Agency Wheeler Ridge-Maricopa - 2	48					

1/ Arvin Edison Contractors include Rag Gulch WD, Kern-Tulare WD, Fresno County, Hills Valley ID, Tri Valley WD, Tulare County, Lower Tule River ID, and Pixley ID.

2/ MWD Entitlement stored as ground water, includes 2,176 AF returned to MWD by USBR from O'Neill Forebay.

Table 22c. Governor Edmund G. Brown California Aqueduct

San Joaquin Field Division, Monthly Deliveries (Continued)

(In acre-feet)

January 1998

Reach No.	Operating Pool			Turnout	Total Diver- sions	Deliveries					
	Beginning and Ending		Structure			Entitle- ment	Inter- ruptible Ent.	Carry- over	USBR	MWD	
	No.	Structure	Mile								
14A	31	Check No. 31	256.14			8	132	265	0	0	
	32		258.61	Kern County Water Agency Wheeler Ridge-Maricopa - 3	8						
			260.44	Kern County Water Agency Wheeler Ridge-Maricopa - 4	397						
		Check No. 32	261.72								
				KCWA Reach 14A Subtotal:	453		188	0	265	0	0
14B	33		264.42	Kern County Water Agency Wheeler Ridge-Maricopa - 5	822	627	195	21	355	0	0
			266.91	Kern County Water Agency Wheeler Ridge-Maricopa - 6	21						
		Check No. 33	267.36								
	34		270.24	Kern County Water Agency Wheeler Ridge-Maricopa - 7	355						
			271.27								
				Reach 14B Total:	1,198		627	0	571	0	0
	35		272.39	Kern County Water Agency Wheeler Ridge-Maricopa - 8	325		325				
			276.09	Kern County Water Agency Wheeler Ridge-Maricopa - 9	580						
				Reach 14C Total:	905		161	419	0	0	0
15A	36	Teerink Pumping Plant	278.13		39,300	486	18	147	0	0	0
			279.02	Kern County Water Agency Wheeler Ridge-Maricopa - 9A	18						
			280.06	Kern County Water Agency Wheeler Ridge-Maricopa - 10	349						
				Reach 15-A Total:	367		202	0	165	0	0
	37	Chrisman Pumping Plant	280.36		38,235						
16A	38		282.06	Kern County Water Agency Wheeler Ridge-Maricopa - 11	0	253	3	109	0	0	0
			283.95								
			285.01	Kern County Water Agency Wheeler Ridge-Maricopa - 12	0						
			286.39	Kern County Water Agency Wheeler Ridge-Maricopa - 13A	0						
			287.06	Kern County Water Agency Wheeler Ridge-Maricopa - 13	0						
	39	Check No. 38	287.09								
			287.62	Kern County Water Agency Wheeler Ridge-Maricopa - 13B	3						
	40	Edmonston Pumping Plant	290.21								
			291.26	Kern County Water Agency Wheeler Ridge-Maricopa - 14	362		274	3	115	0	0
			293.07	Kern County Water Agency Wheeler Ridge-Maricopa - 15	0						
				KCWA TC-15	277						
				K.C.W.A. Reach 16A Subtotal:	642		253	274	115	0	0
17E			293.45		38,149						

Table 23. Governor Edmund G. Brown California Aqueduct

San Joaquin Field Division, Monthly Deliveries (Coastal Branch)

(In acre-feet)

January 1998

Reach No.	Operating Pool			Turnout	Total Diversions	Deliveries						
	Beginning and Ending					Entitle-ment	Inter-ruptible Ent.	MWD 1/	USBR	Carry-over		
	No.	Structure	Mile									
31A	C-1	Coastal Branch Control	0.02		2,744	13	511	0	555			
		Las Perillas Pumping Plant	1.16		2,744							
	C-2		3.79	Green Valley Water District	0							
		Badger Hill Pumping Plant	4.27		2,968							
	C-3	Coastal Check No. 3	7.21									
	C-4		9.34	Castaic Lake WA (Devil's Den WD #1)	0							
		Coastal Check No. 4	9.34									
	C-5	Coastal Check No. 5	12.20									
	C-6		13.30	Kern County Water Agency Berrenda Mesa - 3	13							
			14.83	Kern County Water Agency Berrenda Mesa - DD	0							
				Kern County Water Agency Berrenda Mesa - PO	1,066							
		Devil's Den Pumping Plant	14.86		1,186							
33A				K.C.W.A. Reach 31A Subtotal:	1,079	524	0	0	0	555		
				2/ K.C.W.A. Total:	59,270	14,794	12,500	13,473	0	18,503		
	C-7	Bluestone Pumping Plant	19.05		1,088							
34	C-8	Polonio Pass Pumping Plant	26.54		1,236							
	C-9	Tank Site 1	27.81	(CCWA) Polonio Pass Treatment Plant								
	C-10	Shandon T.O.	38.23	Santa Barbara County (CCWA)	945	945						
		Tank Site 2	58.63	Central Coast:	0							
	C-11	Chorro Valley T.O.	69.31	San Luis Obispo County (CCWA)	301	301						
35		Energy Dissipater	78.12									
	C-12	Lopez T.O.	85.86	SLOCFC & WCD	0							
38				CCWA Total:	1,246	1,246	0	0	0	0		
		Guadalupe T.O.	102.70	SBCFC & WCD	0							
		Santa Maria T.O.	107.43	SBCFC & WCD	0							
		So. Cal. Water T.O.	109.20	SBCFC & WCD	0							
				SBCFC & WCD Total:	0	0	0	0	0	0		
		Tank Site 5	115.42									

1/ Semitropic Water Storage District is storing 2,500 AF of this water for MWD of Southern California.

2/ Includes 411 AF of Dudley Ridge Ag. Interruptible delivered to Kern Water Bank.

Table 24. Southern Field Division Plant Data

(in acre-feet)

January 1998

Date	West Branch				East Branch							Devil Canyon Powerplant Generation	
	Oso Pumping Plant	Warne Powerplant Generation	Castaic Powerplant		Alamo Powerplant			Pearblossom Pumping Plant	Mojave Siphon Powerplant				
			Generation	Pumpback	Generation	Bypass Through Plant	Cottonwood Chute		Generation	Bypass Flume			
1	568	696	1,373	0	792	0	0	741	686	0	604		
2	586	692	2,989	0	733	0	0	521	601	10	599		
3	710	700	896	943	495	0	0	417	659	35	604		
4	497	0	1,592	2,845	715	0	0	648	609	28	504		
5	492	568	6,522	2,070	577	0	252	584	523	73	521		
6	462	594	1,838	1,168	227	0	569	701	503	36	502		
7	465	559	2,537	1,501	772	0	0	699	612	0	500		
8	440	564	3,088	1,703	777	0	0	672	698	0	562		
9	499	613	3,855	1,073	793	0	14	633	686	0	167		
10	726	750	414	1,929	447	0	0	704	682	0	403		
11	572	2	585	3,731	544	0	12	517	485	0	248		
12	574	694	2,659	3,041	497	0	63	474	547	0	401		
13	556	691	3,201	2,597	449	0	0	363	0	82	245		
14	643	694	4,932	1,597	672	0	0	460	453	0	256		
15	555	690	5,414	2,556	716	0	0	509	431	64	255		
16	534	697	3,327	4,418	960	0	0	1,042	881	36	254		
17	512	694	838	3,795	1,601	0	0	1,415	1,333	0	461		
18	550	0	1,872	1,165	2,013	0	0	1,664	1,021	30	431		
19	625	692	2,216	2,024	1,175	0	0	579	198	95	324		
20	623	691	3,734	1,789	672	0	247	417	444	71	420		
21	689	692	2,362	2,081	713	0	0	208	0	103	595		
22	622	694	2,533	1,670	0	0	0	0	0	94	103		
23	617	696	2,267	0	0	0	0	0	0	101	402		
24	601	685	624	1,095	0	0	0	0	0	89	547		
25	635	0	364	2,201	0	0	0	0	0	104	499		
26	722	850	4,121	1,262	0	0	0	0	0	61	502		
27	684	866	2,182	2,040	0	0	0	0	0	0	500		
28	751	841	2,634	1,069	0	0	0	0	0	0	499		
29	775	843	1,252	556	0	0	0	0	0	0	441		
30	754	815	730	0	0	0	0	0	0	0	309		
31	748	844	1,372	945	0	0	0	0	0	0	270		
Total	18,787	19,107	74,323	52,864	16,340	0	1,157	13,968	12,052	1,112	12,928		

Table 25. Pyramid Lake
Daily Operatior

Capacity: 171,200 ac-ft

(in acre-feet except as noted)

January 1998

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow			Computed Losses (-) Gains (+)
				Project		Natural	Project		Natural	
				Castaic Powerplant Pumpback	Warne Powerplant	Stream Flow	Castaic Powerplant Generation	Recreation Deliveries	To Piru Creek	
Dec 31	2576.07	167,421								
1	2575.61	166,834	-587	0	696	39	1,373	0	10	61
2	2573.80	164,535	-2,299	0	692	38	2,989	0	10	-30
3	2574.44	165,346	811	943	700	38	896	0	10	36
4	2575.48	166,668	1,322	2,845	0	40	1,592	0	10	39
5	2572.44	162,822	-3,846	2,070	568	40	6,522	0	10	8
6	2572.43	162,810	-12	1,168	594	37	1,838	0	10	37
7	2572.12	162,421	-389	1,501	559	37	2,537	0	10	61
8	2571.48	161,620	-801	1,703	564	37	3,088	0	10	-7
9	2569.92	159,679	-1,941	1,073	613	181	3,855	0	10	57
10	2571.97	162,170	2,491	1,929	750	419	414	0	20	-173
11	2574.55	165,485	3,315	3,731	2	203	585	0	20	-16
12	2575.42	166,592	1,107	3,041	694	124	2,659	0	44	-49
13	2575.59	166,808	216	2,597	691	93	3,201	0	20	56
14	2573.62	164,308	-2,500	1,597	694	76	4,932	0	20	85
15	2571.94	162,195	-2,113	2,556	690	72	5,414	0	20	3
16	2573.42	164,056	1,861	4,418	697	119	3,327	0	20	-26
17	2576.30	167,716	3,660	3,795	694	107	838	0	20	-78
18	2575.85	167,140	-576	1,165	0	78	1,872	0	20	73
19	2576.26	167,664	524	2,024	692	78	2,216	0	20	-34
20	2575.39	166,553	-1,111	1,789	691	80	3,734	0	20	83
21	2575.72	166,974	421	2,081	692	65	2,362	0	20	-35
22	2575.57	166,783	-191	1,670	694	56	2,533	0	20	-58
23	2574.46	165,371	-1,412	0	696	52	2,267	0	20	127
24	2575.41	166,579	1,208	1,095	685	49	624	0	20	23
25	2576.89	168,472	1,893	2,201	0	47	364	0	20	29
26	2575.31	166,451	-2,021	1,262	850	45	4,121	0	20	-37
27	2575.90	167,204	753	2,040	866	43	2,182	0	19	5
28	2575.32	166,464	-740	1,069	841	43	2,634	0	19	-40
29	2575.65	166,885	421	556	843	75	1,252	0	19	218
30	2575.75	167,012	127	0	815	94	730	0	19	-33
31	2576.12	167,485	473	945	844	72	1,372	0	19	3
Total				64	52,864	19,107	2,577	74,323	0	549
										388

Table 26. Elderberry Forebay

Daily Operation

(in acre-feet except as noted)

Capacity: 32,746 ac-ft

January 1998

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow		Outflow			Computed Losses (-) Gains (+)	
				Castaic Powerplant Generation	Natural	Castaic Powerplant Pumpback	To Castaic Lake			
							Natural	Project		
Dec 31	1501.57	16,078								
1	1505.34	17,434	1,356	1,373	6	0	6	0	-17	
2	1513.00	20,358	2,924	2,989	6	0	6	0	-65	
3	1512.88	20,309	-49	896	6	943	6	0	-2	
4	1509.64	19,046	-1,263	1,592	11	2,845	11	0	-10	
5	1520.48	23,445	4,399	6,522	8	2,070	8	0	-53	
6	1521.89	24,052	607	1,838	7	1,168	7	0	-63	
7	1516.57	21,802	-2,250	2,537	6	1,501	6	3,248	-38	
8	1519.71	23,117	1,315	3,088	6	1,703	6	0	-70	
9	1526.28	25,986	2,869	3,855	23	1,073	23	0	87	
10	1522.85	24,470	-1,516	414	41	1,929	41	0	-1	
11	1515.44	21,339	-3,131	585	27	3,731	27	0	15	
12	1514.54	20,974	-365	2,659	21	3,041	21	0	17	
13	1507.26	18,146	-2,828	3,201	13	2,597	13	3,305	-127	
14	1510.12	19,230	1,084	4,932	12	1,597	12	2,261	10	
15	1517.25	22,084	2,854	5,414	12	2,556	12	0	-4	
16	1514.74	21,055	-1,029	3,327	16	4,418	16	0	62	
17	1507.14	18,101	-2,954	838	13	3,795	13	0	3	
18	1508.94	18,779	678	1,872	12	1,165	12	0	-29	
19	1509.42	18,962	183	2,216	13	2,024	13	0	-9	
20	1514.33	20,888	1,926	3,734	12	1,789	12	0	-19	
21	1509.55	19,011	-1,877	2,362	12	2,081	12	2,066	-92	
22	1504.96	17,295	-1,716	2,533	11	1,670	11	2,515	-64	
23	1510.90	19,532	2,237	2,267	11	0	11	0	-30	
24	1509.56	19,015	-517	624	11	1,095	11	0	-46	
25	1504.74	17,215	-1,800	364	10	2,201	10	0	37	
26	1512.19	20,037	2,822	4,121	10	1,262	10	0	-37	
27	1512.35	20,100	63	2,182	10	2,040	10	0	-79	
28	1510.74	19,471	-629	2,634	10	1,069	10	2,212	18	
29	1505.93	17,650	-1,821	1,252	45	556	45	2,545	28	
30	1507.89	18,381	731	730	41	0	41	0	1	
31	1508.92	18,772	391	1,372	36	945	36	0	-36	
Total				2,694	74,323	478	52,864	478	18,152	-613

Table 27. Castaic Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 323,699 ac-ft

January 1998

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow		Computed Losses (-) Gains (+)	
				From Elderberry Forebay		Natural	Deliveries	Released To Castaic Lagoon		
				Natural	Project					
Dec 31	1498.04	287,087								
1	1497.84	286,671	-416	6	0	6	671	0	244	
2	1497.54	286,047	-624	6	0	5	625	10	0	
3	1497.34	285,631	-416	6	0	6	555	10	138	
4	1497.04	285,009	-622	11	0	9	555	10	-77	
5	1496.71	284,325	-684	8	0	10	555	20	-127	
6	1496.40	283,683	-642	7	0	7	555	10	-91	
7	1497.60	286,171	2,488	6	3,248	6	671	50	-51	
8	1497.30	285,548	-623	6	0	6	744	50	159	
9	1497.00	284,926	-622	23	0	11	718	50	113	
10	1496.70	284,304	-622	41	0	32	717	149	171	
11	1496.30	283,477	-827	27	0	19	737	149	13	
12	1495.90	282,650	-827	21	0	15	707	149	-6	
13	1497.00	284,926	2,276	13	3,305	12	714	149	-191	
14	1497.70	286,379	1,453	12	2,261	10	886	142	198	
15	1497.20	285,341	-1,038	12	0	10	1,050	50	40	
16	1496.70	284,304	-1,037	16	0	14	961	30	-75	
17	1496.20	283,270	-1,034	13	0	11	985	30	-43	
18	1495.70	282,238	-1,032	12	0	10	930	20	-104	
19	1495.30	281,414	-824	13	0	17	685	20	-149	
20	1495.30	281,414	0	12	0	13	397	20	391	
21	1496.24	283,352	1,938	12	2,066	11	28	20	-102	
22	1497.34	285,631	2,279	11	2,515	10	20	20	-216	
23	1497.34	285,631	0	11	0	9	18	20	18	
24	1497.24	285,424	-207	11	0	9	352	20	146	
25	1497.14	285,216	-208	10	0	8	130	20	-76	
26	1496.94	284,801	-415	10	0	8	287	20	-126	
27	1496.74	284,387	-414	10	0	8	452	20	41	
28	1497.35	285,652	1,265	10	2,212	7	610	20	-334	
29	1498.45	287,942	2,290	45	2,545	22	545	18	240	
30	1498.15	287,316	-626	42	0	21	588	48	-53	
31	1497.85	286,691	-625	38	0	17	653	28	1	
Total			-396	478	18,152	353	18,101	1,372	94	

Table 28. Governor Edmund G. Brown California Aqueduct

Southern Field Division, Monthly Deliveries (West Branch)

(In acre-feet)

January 1998

Reach No.	Operating Pool			Turnout	Total Diver- sions	Deliveries					
	Beginning and Ending		Structure			Entitle- ment	Rec.	Local	Ext. M & I	Cry. Ovr.	
	No.	Structure	Mile	2/					2/		
29A	42	Oso Pumping Plant	1.49		18,787						
29F	W2	Quail Lake	5.02	Antelope Valley-East Kern Water Agency	Re-moved						
		Quail Lake Embankment	7.82	Antelope Valley-East Kern Water Agency	Stub						
		Warne Powerplant	14.07		19,107						
29H	W3	Pyramid Lake		Calif. State Park Pyramid Recreation	0						
		Pyramid Dam	17.10	Piru Creek Fish Enhancement	0						
29J	W4	Castaic Power Plant	25.82	(52,864 AF pumpback)	74,323						
30 1/		Elderberry Forebay									
W5	Forebay Dam	28.12									
	Castaic Lake		Calif. State Park Castaic Lake Recreation	15		15		3,842	681		
	Dam	31.47									
	Castaic Lake Outlet	31.55	MWD - 78"	3,842							
			MWD - 132"	13,979							
			CLWA - T1	-681							
			Castaic Lake Water Agency	946							
			United Water Conservation Dist.	0							
			Ventura County FCD	Stub							
			LA Co. Parks & Recreation	0							
			Releases to Lagoon	1,372							
			Reach 30 Subtotal:	18,101	946	15	0	17,140	0		
	W6	Castaic Lagoon		Recreation to Lagoon	34		34				
		Outlet	31.87		1,248						

1/ Reach 30 actually terminates at mile 31.50. It is shown here as including the outlet works at mile 31.55.

All deliveries from the outlet works and from the Lagoon are billed to Reach 30.

2/ Extended Municipal and Industrial Carryover Entitlement under Article 56 of the Monterey Agreement.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

January 1998

Date	Water Surface Elev. (in feet)	Storage	Storage Change	Inflow			Outflow				Del. To Mojave W.A.	Natural To Mojave River	Computed Losses (-) Gains (+)	Las Flores Ranch Exchange 1/				
				Project		Natural Stream Flow	Project											
				Mojave Siphon	Mojave Bypass Flume		Delivered to CLAWA	Rec.	San Bernardino Tunnel									
Dec 31	3348.99	69,229																
1	3348.99	69,229	0	686	0	3	5	1	604	0	0.4	-79	3					
2	3349.06	69,295	66	601	10	3	3	0	599	0	0.4	54	3					
3	3349.18	69,407	112	659	35	4	3	0	604	0	0.4	21	3					
4	3349.37	69,585	178	609	28	6	4	0	504	0	0.4	43	3					
5	3349.35	69,566	-19	523	73	7	3	0	521	0	0.4	-98	3					
6	3349.52	69,725	159	503	36	6	3	0	502	0	0.4	119	5					
7	3349.67	69,866	141	612	0	5	3	0	500	0	0.4	27	7					
8	3349.81	69,998	132	698	0	5	3	0	562	0	0.4	-6	8					
9	3350.72	70,856	858	686	0	39	3	0	167	0	0.4	303	8					
10	3351.33	71,435	579	682	0	234	3	0	403	0	0.4	69	8					
11	3351.63	71,720	285	485	0	68	3	0	248	0	0.4	-17	8					
12	3351.57	71,663	-57	547	0	43	3	0	401	0	40.4	-203	28					
13	3351.67	71,758	95	0	82	31	3	0	245	0	35.4	265	48					
14	3351.96	72,035	277	453	0	24	3	0	256	0	0.4	59	48					
15	3352.23	72,293	258	431	64	20	3	0	255	0	0.4	1	48					
16	3352.92	72,955	662	881	36	17	3	0	254	0	0.4	-15	39					
17	3353.80	73,803	848	1,333	0	15	2	0	461	0	0.4	-37	32					
18	3354.54	74,521	718	1,021	30	13	0	0	431	0	0.4	85	32					
19	3354.53	74,512	-9	198	95	48	0	0	324	0	0.4	-26	42					
20	3354.47	74,453	-59	444	71	33	3	0	420	0	0.4	-184	48					
21	3353.93	73,929	-524	0	103	25	3	0	595	0	0.4	-54	48					
22	3353.80	73,803	-126	0	94	21	3	0	103	0	0.4	-135	48					
23	3353.49	73,504	-299	0	101	18	3	0	402	0	0.4	-13	48					
24	3352.97	73,003	-501	0	89	16	2	0	547	0	0.4	-57	48					
25	3352.52	72,571	-432	0	104	14	0	0	499	0	0.4	-51	48					
26	3351.98	72,054	-517	0	61	13	0	0	502	0	0.4	-89	35					
27	3351.54	71,634	-420	0	0	12	3	0	500	0	0.4	71	20					
28	3351.00	71,121	-513	0	0	11	3	0	499	0	0.4	-22	20					
29	3350.65	70,790	-331	0	0	26	3	0	441	0	0.4	87	20					
30	3350.38	70,535	-255	0	0	26	3	0	309	0	0.4	31	20					
31	3350.15	70,319	-216	0	0	21	1	0	270	0	0.4	34	20					
Total				1,090	12,052	1,112	827	80	1	12,928	0	87	195	799				

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 30. Lake Perris

Daily Operation

(in acre-feet except as noted)

Capacity: 131,452 ac-ft

January 1998

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow 1/	Outflow 2/	Computed Losses (-) Gains (+) 1/
Dec 31	1579.24	107,367				
1	1579.22	107,324	-43		9	
2	1579.21	107,302	-22		9	
3	1579.25	107,388	86		10	
4	1579.24	107,367	-21		9	
5	1579.24	107,367	0		9	
6	1579.23	107,345	-22		9	
7	1579.24	107,367	22		10	
8	1579.25	107,388	21		10	
9	1579.32	107,539	151		10	
10	1579.37	107,647	108		10	
11	1579.37	107,647	0		10	
12	1579.40	107,712	65		10	
13	1579.41	107,733	21		10	
14	1579.41	107,733	0		10	
15	1579.41	107,733	0		9	
16	1579.42	107,755	22		10	
17	1579.44	107,798	43		9	
18	1579.44	107,798	0		10	
19	1579.42	107,755	-43		10	
20	1579.44	107,798	43		9	
21	1579.45	107,820	22		9	
22	1579.47	107,863	43		10	
23	1579.45	107,820	-43		9	
24	1579.46	107,841	21		10	
25	1579.47	107,863	22		9	
26	1579.47	107,863	0		9	
27	1579.49	107,906	43		9	
28	1579.49	107,906	0		9	
29	1579.50	107,928	22		9	
30	1579.51	107,949	21		9	
31	1579.51	107,949	0		9	
Total			582	783	293	92

1/ Readings are not taken on a daily basis. End of month only.

2/ Includes deliveries to MWD from Reach 28J and recreation water to California state Park at lake Perris.

Table 31a. Governor Edmund G. Brown California Aqueduct

Southern Field Division, Monthly Deliveries (East Branch)

(In acre-feet)

January 1998

Reach No.	Operating Pool		Turnout	Total Diversions	Deliveries					
	Beginning and Ending				Entitle-ment	Rec.	Transfer 1/	Ext. M & I Cry. Ovr. 2/	Transfer Local Out	
	No.	Structure	Mile							
17E	40	Edmonston Pumping Plant	293.45	38,149						
	41		298.65		Kern County Water Agency Tej.-Cas	Stub				
17F		Check No. 41	303.41							
18A	42	Check No. 42	304.99							
19	43	Alamo Powerplant	305.73	(Does not include 1,157 AF flow down Cottonwood Chute)	16,340	2	262	54		
		Check No. 43	309.70							
	44		311.84	LADWP Connection	0					
			313.50	AVEK 245th Street West	0					
	45	Check No. 44	314.81							
			314.93	AVEK 235th Street West	2					
	46		315.57	AVEK 225th Street West	0					
		Check No. 45	319.74							
			323.19	Antelope Valley-East Kern WA Fairmont	316					
		Check No. 46	323.84							
				Reach 19 Total:	318	264	0	54	0	0
20A	47	Check No. 47	326.77			16	865	8		
	48		326.91	Antelope Valley-East Kern WA Willow Springs Siphon	16					
			329.65	Antelope Valley-East Kern WA 120th Street West	Removed					
	49	Check No. 48	330.82							
	50	Check No. 49	335.93							
20B	50		336.73	AVEK WA - Quartz Hill (Wheeled for Palmdale WD)	8	1,213				
				Antelope Valley-East Kern WA	865					
	51	Check No. 50	341.51							
	52	Check No. 51	342.07							
			342.80	Antelope Valley-East Kern WA 30th Street West	Not in Use					
21	53	Check No. 52	343.74			1,213				
			346.98	PWD Palmdale	1,213					
	54		348.14	Antelope Valley-East Kern WA Acton Treatment Plant	0					
		Check No. 53	348.17							
	55	Check No. 54	350.25							
22A	56	Check No. 55	352.70			166				
	57	Check No. 56	354.76							
22B	58		354.97	Littlerock Creek I.D.	0					
		Check No. 57	356.93	Antelope Valley-East Kern WA 96th Street East	0					
			357.72	Antelope Valley-East Kern WA East Side Treatment Plant	166					

1/ Transferred from Mojave Water Agency to AVEK.

2/ Extended Municipal and Industrial Carryover Entitlement under Article 56 of the Monterey Agreement.

Table 31b. Governor Edmund G. Brown California Aqueduct

Southern Field Division, Monthly Deliveries (East Branch, Continued)

(In acre-feet)

January 1998

Reach No.	Operating Pool			Turnout	Total Diversions	Deliveries					
	Beginning and Ending		Structure			Entitlement	Recreation	Ex-change 1/	Ext. M & I Cry. Ovr. 2/	Local	
	No.	No.	Mile								
22B	58	Pearblossom Pumping Plant	360.61		13,968	672					
	59	Check No. 59	366.09								
	60	Check No. 60	373.94								
	61	Check No. 61	379.00								
	62	Check No. 62	384.26								
	63	Check No. 63	389.50								
	64	Check No. 64	395.10								
	65	Check No. 65	400.32								
	66		401.10	Mojave Water Agency							
				Morongo 24" and 42"	672						
23	Check No. 66		403.41	Mojave Water Agency		18					
				Hesperia	0						
24	Mojave Siphon	405.48		Las Flores Ranch	799	1					
				(Does not include 1,112 AF through the bypass flume)	12,052						
25	Mojave Siphon Powerplant	405.65	407.65	Crestline Lake Arrowhead Water Agency	80	62					
				Calif. State Park Silverwood Agency (Rec.)	1						
26A	Silverwood Lake	411.46	412.73		12,928	2,312					
				San Gorgonio Pass Water Agency	0						
28G	Devil Canyon Powerplant	412.73	412.88	MWD-SC Rialto	8,214	5,902					
				Desert Water Agency (MWD Wheeling Exchange)	0						
				San Gabriel Valley Water District	0						
				Coachella Valley WD (MWD Wheeling Exchange)	754						
				San Bernardino Valley Water District	65						
				MWD (SBVMWD Exchange)	0						
28H	Santa Ana Valley Pipeline	425.46				395					
28J		433.06		MWD-SC Box Springs	2,931						
		440.05		MWD-SC Perris Bypass Pipeline	0						
28J	Lake Perris	442.00		MWD-SC 18"	287	287					
		443.44		MWD-SC 54"	0						
				MWD-SC 78"	0						
				Calif. State Park							
				Lake Perris Recreation	6						
				MWD Total:	30,272	4,523	0	2,707	23,042	0	

1/ Returned from USBR in exchange for 1997 Ent. water.

2/ Extended Municipal and Industrial Carryover Entitlement under Article 56 of the Monterey Agreement.

Table 32. Water Quality At Selected SWP Locations

January 1998

Constituent	Units	Thermalito Afterbay At Outlet	North Bay Aqueduct Barker Slough Pumping Plant	Banks Pumping Plant	Delta Mendota Canal At McCabe Rd.	California Aqueduct				Devil Canyon Afterbay Near San Bernardino
						O'Neill Forebay Outlet (Check 13)	Kettleman City (Check 21)	Near Hwy 119 (Check 29)	Tehachapi Afterbay (Check 41)	
Alkalinity	mg/l	37	68	76	47	70	72	71	66	73
Arsenic	mg/l	<0.001	0.002	0.002	0.001	0.002	0.002	0.002	0.002	0.002
Boron	mg/l	<0.1	0.1	0.3	0.1	0.2	0.2	0.2	0.2	0.1
Bromide	mg/l	NR	0.02	0.25	0.06	0.17	NR	NR	0.34	0.20
Calcium	mg/l	8	10	23	14	24	24	22	22	18
Carbon - Total Organic	mg/l	NR	18	5	7	7	NR	NR	5	2
Chloride	mg/l	<1	10	82	22	58	78	84	100	64
Chromium	mg/l	<0.005	<0.005	<0.005	<0.005	0.008	<0.005	<0.005	<0.005	<0.005
Copper	mg/l	0.001	0.005	0.003	0.003	0.004	0.003	0.003	0.003	0.002
Fluoride	mg/l	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hardness	mg/l	36	54	115	60	110	118	113	117	90
Iron	mg/l	0.005	0.126	0.036	0.029	0.025	0.040	0.032	0.021	<0.005
Lead	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium	mg/l	4	7	14	6	12	14	14	15	11
Manganese	mg/l	<0.005	0.008	0.020	<0.005	0.006	<0.005	<0.005	<0.005	<0.005
Nitrate + Nitrite	mg/l	0.05	0.19	1.20	NR	NR	NR	NR	1.40	0.53
Phosphorus-Ortho	mg/l	<0.01	0.11	0.11	NR	NR	NR	NR	0.09	0.08
Phosphorus-Total	mg/l	0.01	0.37	0.15	NR	NR	NR	NR	0.14	0.10
Selenium	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Sodium	mg/l	4	17	61	23	50	56	61	73	48
Specific Conductance	mS	0.089	0.187	0.537	0.248	0.467	0.518	0.534	0.607	0.423
Sulfate	mg/l	2	9	49	28	52	44	43	48	30
Total Dissolved Solids	mg/l	58	128	303	151	279	288	297	345	233
Trihalomethane Formation Potential	µg/l	NR	1549	600	713	740	NR	585	636	351
Turbidity	µg/l	6	174	6	36	26	9	8	13	2
Zinc	mg/l	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050

mg/l milligrams per liter

µg/l micrograms per liter

mS millSiemens

NR - Not Reported

Table 33. Water Quality At Selected Delta Stations

January 1998

Date	Tides (feet above mean sea level)		Flow In CFS		Electrical Conductivity in millisiemens								Cl in mg/l		
			Net Delta Outflow Index		Rio Vista	Antioch	Chipp Island	Emmaton		Jersey Point		Clifton Court	Cache Slough	Delta Mendota Canal	
	(Antioch) Daily Mean		Mean Daily	Monthly Average				md	md	md	14dm	md	14dm	md	md
	Hi	Half			md	md	md	md	14dm	md	14dm	md	md	md	md
1	3.85	1.64	4,155	4,155	11,440	2.34	0.00	0.58	0.31	0.67	0.56	0.56	0.69	0.63	200
2	4.00	2.01	3,965	4,060	11,460	2.94	0.00	0.72	0.34	0.83	0.57	0.55	0.69	0.62	190
3	3.67	1.96	5,730	4,617	13,030	3.01	0.00	0.68	0.37	0.86	0.59	0.63	0.69	0.64	178
4	3.71	1.93	7,554	5,351	16,380	2.89	0.00	0.50	0.39	0.83	0.60	0.61	0.69	0.64	182
5	3.30	1.33	15,324	7,346	22,444	2.22	0.00	0.32	0.40	0.71	0.61	0.51	0.69	0.68	182
6	3.25	1.11	21,552	9,713	24,741	1.76	4.20	0.29	0.40	0.68	0.62	0.50	0.68	0.63	178
7	3.46	1.19	24,016	11,757	23,691	1.54	3.36	0.26	0.40	0.66	0.63	0.52	0.67	0.62	155
8	3.69	1.37	20,682	12,872	21,033	1.43	3.43	0.27	0.41	0.68	0.64	0.51	0.65	0.61	160
9	3.91	1.58	17,831	13,423	21,321	1.35	4.93	0.27	0.41	0.71	0.66	0.53	0.65	0.61	163
10	4.32	1.92	17,350	13,816	21,342	1.36	4.33	0.29	0.41	0.74	0.68	0.55	0.64	0.62	165
11	4.12	1.76	19,154	14,301	22,250	1.23	3.57	0.28	0.41	0.67	0.69	0.57	0.64	0.67	165
12	4.42	2.83	21,027	14,862	32,778	1.14	3.23	0.28	0.40	0.66	0.70	0.56	0.64	0.63	170
13	3.91	1.58	43,469	17,062	49,264	0.96	1.36	0.27	0.39	0.55	0.70	0.58	0.64	0.65	145
14	4.01	1.83	67,354	20,654	53,317	0.71	0.56	0.23	0.37	0.45	0.69	0.74	0.43	0.77	148
15	3.88	2.05	72,828	24,133	62,429	0.60	0.36	0.21	0.35	0.36	0.67	0.70	1.40	0.65	163
16	3.47	1.90	89,558	28,222	107,254	0.45	0.28	0.19	0.31	0.27	0.63	0.55	0.99	0.53	158
17	3.17	1.74	132,880	34,378	122,550	0.34	0.26	0.17	0.27	0.24	0.59	0.54	0.00	0.50	152
18	3.30	1.98	144,404	40,491	128,959	0.29	0.20	0.15	0.25	0.24	0.54	0.40	0.00	0.37	135
19	3.64	2.08	156,804	46,612	136,790	0.28	0.16	0.15	0.24	0.22	0.51	0.32	0.00	0.33	127
20	3.53	1.84	163,278	52,446	135,445	0.27	0.15	0.13	0.23	0.21	0.48	0.30	0.00	0.31	125
21	3.50	1.72	157,925	57,468	131,878	0.25	0.15	0.13	0.22	0.20	0.44	0.29	0.00	0.29	123
22	3.47	1.65	153,906	61,852	122,144	0.25	0.00	0.13	0.21	0.21	0.41	0.31	0.00	0.32	128
23	3.65	1.71	142,966	65,379	109,934	0.25	0.13	0.13	0.20	0.24	0.37	0.36	0.00	0.34	133
24	3.89	1.89	125,728	67,893	100,000	0.24	0.11	0.13	0.18	0.20	0.34	0.35	0.00	0.34	145
25	4.02	1.91	115,808	69,810	92,792	0.24	0.13	0.15	0.18	0.21	0.30	0.38	0.00	0.36	137
26	4.39	2.13	107,727	71,268	87,353	0.25	0.13	0.15	0.17	0.20	0.27	0.41	0.00	0.38	133
27	4.52	2.26	101,933	72,404	89,152	0.24	0.12	0.15	0.16	0.19	0.25	0.43	0.00	0.39	138
28	4.52	2.30	101,619	73,447	95,304	0.24	0.11	0.15	0.15	0.20	0.23	0.47	0.00	0.43	148
29	4.78	2.74	107,755	74,630	110,494	0.24	0.11	0.16	0.15	0.19	0.22	0.53	0.00	0.45	150
30	4.10	2.32	126,611	76,363	123,058	0.24	0.12	0.16	0.15	0.20	0.21	0.54	0.61	0.48	145
31	4.35	2.48	139,622	78,404	119,359	0.24	0.11	0.16	0.15	0.19	0.21	0.51	0.61	0.48	142

Clifton Court Cl(mg/l)=200X EC - 25

N.R. = No Record.

f = Excess Delta conditions with fish concerns.

r = Excess delta conditions with export/inflow ratio concerns

sdm = Daily Mean

s = Balanced water conditions with storage withdrawals. md = Mean Daily

Table 34. Pesticides, Herbicides, and Other Organic Substances Detected In the SWP

January 1998

Sampling Location	Sample Date 1/	Chemical Detected	Concentration µg/l 2/
North Bay Aqueduct At Barker Slough Pumping Plant	September-17-1997	None Detected	
California Aqueduct At Banks Pumping Plant	September-17-1997	MTBE	1.70
Delta Mendota Canal At McCabe Road	September-17-1997	MTBE	2.30
California Aqueduct Near Kettleman City (Check 21)	September-17-1997	2/4 D	0.16
California Aqueduct At Tehachapi Afterbay (Check 41)	September-17-1997	None Detected	
Devil Canyon Power Plant At Entrance To Santa Ana Pipeline	September-17-1997	MTBE	2.30

1/ Locations are normally sampled during March, June, and September. Monthly reports will include data for the month in which samples were most recently taken.

2/ Micrograms per liter.

Table 35. Oroville and Delta Field Divisions Energy Data

(in kWh)

January 1998

Date	Oroville Thermalito Complex		Barker Slough	Cordelia	Banks Pumping Plant		South Bay	Del Valle
			Pumping Plant	Pumping Plant	Total	SWP	Pumping Plant	Pumping Plant
	Generation	Load	Load	Load	Load	Load	Load	Load
1	378,432	1,516,320	10,640	23,212	3,930,624	3,930,624	189,045	237
2	4,135,392	15,552	11,158	24,395	3,898,368	3,898,368	170,230	232
3	274,464	992,448	7,084	18,074	3,956,544	3,956,544	173,935	235
4	1,126,080	1,279,008	6,734	17,794	3,924,288	3,924,288	175,495	231
5	6,692,832	12,672	8,799	18,599	3,929,472	3,929,472	186,700	241
6	4,499,712	564,480	7,714	18,970	3,838,464	3,838,464	149,645	242
7	2,974,752	849,600	6,972	15,540	3,842,496	3,842,496	135,245	240
8	4,357,152	834,336	8,036	19,019	3,838,464	3,838,464	138,890	240
9	5,956,704	10,944	8,848	20,202	3,987,648	3,987,648	155,970	243
10	255,456	1,199,808	5,390	15,561	3,987,648	3,987,648	145,510	234
11	7,776	3,090,816	7,889	18,760	3,980,160	3,980,160	115,130	231
12	2,399,040	1,916,352	7,532	18,893	3,932,928	3,932,928	97,800	236
13	4,820,256	951,840	7,252	19,362	3,500,928	3,500,928	100,505	242
14	3,382,560	686,016	6,244	14,693	42,048	42,048	111,570	242
15	6,768,000	667,584	8,302	19,292	44,928	44,928	118,125	238
16	11,771,424	1,728	7,616	20,181	97,344	97,344	82,705	227
17	10,102,752	2,304	6,370	15,316	83,520	83,520	92,650	215
18	10,505,952	864	6,979	19,740	37,440	37,440	94,335	215
19	9,537,408	2,880	6,916	15,792	85,248	85,248	93,100	225
20	12,330,720	2,304	7,077	16,898	109,440	109,440	89,575	249
21	17,256,960	0	8,204	20,202	62,784	62,784	109,040	233
22	17,113,248	0	8,827	20,209	0	0	93,240	234
23	17,148,672	0	6,503	16,737	5,376	5,376	57,260	241
24	17,001,504	0	7,567	18,431	20,352	20,352	18,250	227
25	15,529,248	0	5,684	16,254	21,312	21,312	27,145	223
26	15,608,736	0	8,064	19,544	22,080	22,080	16,535	213
27	14,607,936	0	7,532	18,361	523,776	523,776	27,420	219
28	7,733,952	2,880	7,658	16,212	1,095,168	1,095,168	15,450	190
29	8,509,248	14,400	9,618	18,893	1,037,952	1,037,952	27,445	193
30	8,462,592	757,440	11,438	17,535	1,146,432	1,146,432	32,755	212
31	8,843,040	652,320	12,558	19,047	1,139,520	1,139,520	23,815	194
Total	250,092,000	16,024,896	247,205	571,718	56,122,752	56,122,752	3,064,515	7,074

Table 36. San Luis Field Division Energy Data

(in kWh)

January 1998

Date	Dos Amigos Pumping Plant		Gianelli Pumping-Generating Plant			
	Total Load	SWP Load 1/	Total Generation	SWP Generation 1/	Total Load	SWP Load 1/
1	476,784	314,784	0	0	6,959,808	3,479,808
2	511,056	349,056	0	0	5,541,408	4,236,408
3	485,424	323,424	0	0	5,596,416	3,877,416
4	430,272	268,272	0	0	7,721,568	3,827,568
5	432,000	270,000	0	0	5,733,792	4,039,792
6	569,520	407,520	0	0	5,702,400	4,166,400
7	662,400	500,400	0	0	5,620,608	3,937,608
8	884,448	722,448	0	0	5,179,680	3,496,680
9	913,248	751,248	0	0	4,705,056	3,022,056
10	798,336	636,336	0	0	4,774,176	3,091,176
11	715,536	553,536	0	0	6,162,912	2,549,912
12	781,920	619,920	0	0	4,105,152	2,648,152
13	664,848	441,848	0	0	5,173,920	3,931,920
14	727,488	502,488	0	0	2,390,400	8,400
15	758,016	488,016	720,864	720,864	2,343,744	1,744
16	760,464	490,464	1,084,608	1,084,608	2,307,456	25,456
17	867,312	552,312	1,073,952	1,073,952	2,089,440	25,440
18	951,696	636,696	818,496	818,496	3,266,496	-48,504
19	834,768	519,768	992,736	992,736	1,342,944	2,944
20	762,048	447,048	898,848	898,848	1,603,872	-8,128
21	827,568	512,568	900,000	900,000	2,254,752	-5,248
22	810,144	405,144	632,448	632,448	1,969,056	17,056
23	844,128	412,128	901,728	901,728	942,336	6,336
24	1,146,960	714,960	992,160	992,160	940,896	4,896
25	1,092,960	660,960	1,048,320	1,048,320	2,292,480	-43,520
26	967,248	535,248	1,502,784	1,502,784	936,576	42,576
27	1,005,696	501,696	1,364,256	1,364,256	941,760	5,760
28	1,106,640	602,640	0	0	954,432	18,432
29	1,034,928	530,928	0	0	1,324,224	14,224
30	1,055,088	551,088	0	0	1,319,904	35,904
31	1,066,464	562,464	0	0	1,302,912	24,912
Total	24,945,408	15,785,408	12,931,200	12,931,200	103,500,576	46,433,576

1/ Negative values may appear in SWP columns and indicate a mismatch of scheduled CVP energy and actual pumping;
adjustments to SWP water shares are made to balance the mismatch.

Table 37. San Joaquin Field Division Pumping Plant Energy Load Data

(in kWh)

January 1998

Date	Coastal Branch					California Aqueduct			
	Las Perillas	Badger Hill	Devils Den	Bluestone	Polonio	Buena Vista	Teerink	Chrisman	Edmonston
1	5,096	11,144	34,686	32,634	34,722	372,096	395,928	917,568	3,116,880
2	9,484	22,600	35,280	32,472	35,730	363,888	375,552	861,696	2,975,040
3	8,294	18,288	33,966	31,896	34,722	313,344	319,248	720,288	2,743,200
4	4,686	12,416	25,344	23,886	25,560	370,296	392,544	882,432	2,973,600
5	6,718	14,056	22,086	20,952	23,004	325,872	340,488	783,072	2,921,040
6	10,296	25,568	35,280	32,976	35,964	295,632	332,280	760,896	2,856,960
7	9,576	20,872	35,370	33,318	36,162	331,056	366,336	829,152	2,849,760
8	5,942	14,344	17,298	15,516	17,136	314,856	349,992	795,168	2,903,040
9	5,050	11,592	27,360	26,226	27,774	327,096	347,328	809,856	2,897,280
10	4,080	8,736	20,376	18,252	20,106	321,912	345,024	762,048	2,723,760
11	6,436	14,368	33,948	32,544	34,956	314,352	319,248	754,560	2,802,240
12	5,498	13,816	32,562	29,916	32,652	302,688	322,920	725,184	2,592,000
13	4,722	10,856	23,526	22,068	24,318	236,952	268,560	624,384	2,351,520
14	6,376	15,208	32,940	30,996	34,344	329,256	358,056	836,640	2,959,200
15	4,800	9,800	12,708	11,430	12,564	323,568	360,144	832,608	2,957,040
16	5,952	14,480	33,912	32,202	34,722	386,784	441,144	969,120	3,443,760
17	2,902	6,696	35,424	33,426	37,296	528,480	532,728	1,217,376	4,776,480
18	4,342	8,680	20,754	19,674	20,376	625,032	680,256	1,569,600	5,862,240
19	4,726	10,120	33,858	31,536	34,632	486,792	513,000	1,174,464	4,104,000
20	2,426	4,224	27,396	25,794	28,224	375,264	417,168	946,656	3,496,320
21	5,398	14,784	32,364	29,844	31,878	366,192	403,344	920,736	3,264,480
22	4,866	12,136	29,322	27,540	30,690	166,680	179,496	389,088	1,504,800
23	3,270	6,600	17,892	16,758	17,298	196,776	188,640	427,104	1,506,960
24	2,524	4,480	26,172	24,930	27,360	232,344	225,360	466,272	1,505,520
25	4,704	9,520	24,408	22,644	24,228	245,232	214,416	468,288	1,622,160
26	2,536	4,712	33,966	31,770	34,416	203,904	200,160	487,872	1,751,040
27	7,280	15,656	24,228	23,364	24,930	271,656	232,056	505,152	1,690,560
28	9,380	22,592	23,454	21,384	23,418	264,024	227,592	502,272	1,747,440
29	10,726	26,096	34,344	32,598	35,838	265,392	227,736	548,640	1,871,280
30	16,734	40,752	34,380	32,202	35,442	207,792	227,088	493,920	1,750,320
31	22,934	59,328	34,362	32,076	34,758	243,432	212,184	501,120	1,750,320
Total	207,754	484,520	888,966	832,824	905,220	9,908,640	10,316,016	23,483,232	84,270,240

Table 38. Southern Field Division Energy Data

(in kWh)

January 1998

Date	West Branch			East Branch			
	Oso Pumping Plant	Warne Powerplant	Castaic Powerplant	Alamo Powerplant	Pearblossom Pumping Plant	Mojave Siphon Powerplant	Devil Canyon Powerplant
	Load	Generation	SWP Generation	Generation	Load	Generation	Generation
1	159,936	439,488	600,000	92,008	516,336	52,605	760,704
2	166,544	437,976	600,000	86,016	368,472	45,633	756,672
3	205,072	442,008	600,000	56,924	297,552	49,854	750,240
4	149,352	0	600,000	82,208	457,056	48,657	620,544
5	138,096	358,704	480,000	66,696	413,640	39,648	654,912
6	136,136	360,288	480,000	23,520	488,328	37,149	632,256
7	135,464	354,168	480,000	89,992	496,212	49,602	629,184
8	133,560	356,256	480,000	90,664	476,712	57,099	708,672
9	134,400	385,920	480,000	92,792	444,096	55,587	204,288
10	205,464	470,088	480,000	50,652	488,988	54,390	505,152
11	176,232	0	480,000	63,588	367,176	32,613	312,000
12	161,000	437,112	600,000	56,084	337,164	39,984	500,736
13	161,784	438,912	600,000	51,128	259,896	0	305,664
14	174,664	439,200	600,000	78,232	329,004	33,411	314,016
15	160,776	435,168	600,000	83,692	361,788	30,765	313,344
16	146,944	439,920	600,000	111,664	727,044	65,604	316,800
17	147,112	437,760	600,000	193,592	980,988	101,136	581,376
18	161,000	0	600,000	245,392	1,137,804	72,723	545,280
19	176,512	437,472	600,000	140,868	405,756	10,017	394,368
20	177,240	436,104	600,000	77,448	303,324	23,877	533,376
21	205,464	437,616	600,000	83,776	160,656	0	752,832
22	176,064	439,128	600,000	0	16,152	0	121,344
23	175,896	439,848	600,000	0	15,384	0	509,376
24	173,488	434,592	600,000	0	15,792	0	693,504
25	187,432	0	600,000	0	15,384	0	631,680
26	203,728	526,968	720,000	0	15,852	0	637,248
27	203,672	527,544	720,000	0	12,348	0	632,256
28	202,160	532,224	720,000	0	14,148	0	628,608
29	217,448	533,448	720,000	0	16,632	0	556,608
30	206,304	517,680	720,000	28	18,180	0	388,032
31	207,872	530,640	720,000	0	18,096	0	335,040
Total	5,366,816	12,026,232	18,480,000	1,916,964	9,975,960	900,354	16,226,112